DUN'S REVIEW and Modern Industry

A DUN & BRADSTREET PUBLICATION

December 1957 75¢

OUR ECONOMIC RACE WITH THE SOVIET UNION

WHAT BUSINESS EXPECTS IN 1958

THE URGE TO DECENTRALIZE

NOTE THESE 12 MAJOR PRODUCT GROUPS FOR WHICH STAUFFER IS A LEADING SOURCE OF SUPPLY

12 MAJOR PRODUCT GROUPS

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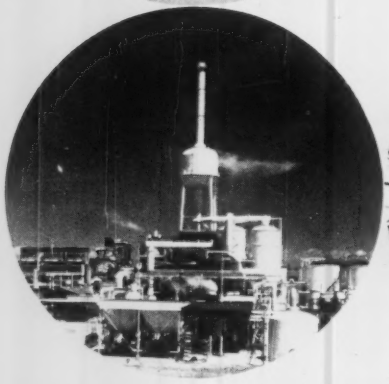

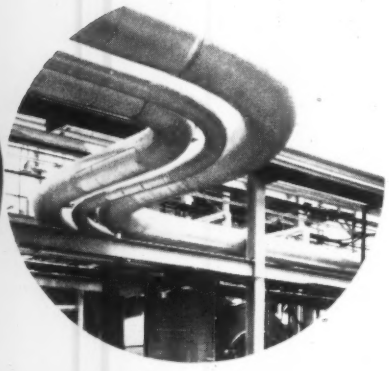

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December 1957

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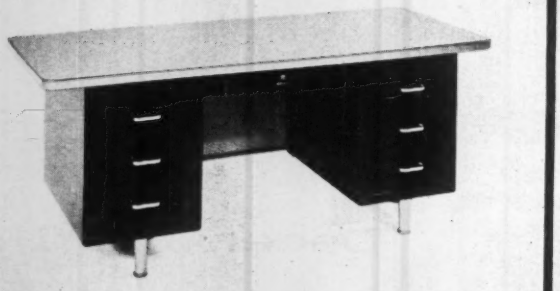
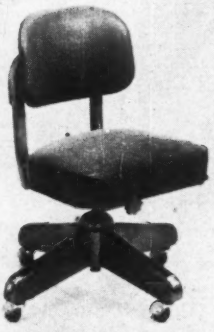


General Office Desks



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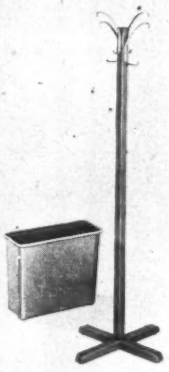

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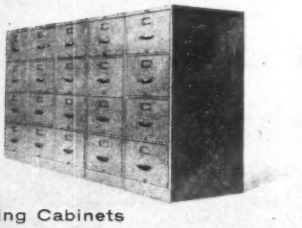

Filing Cabinets

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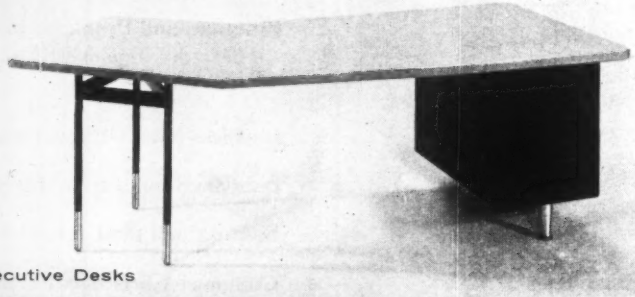

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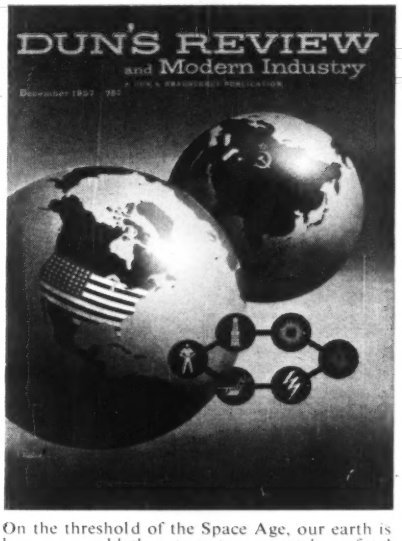

On the threshold of the Space Age, our earth is less one world than two, torn apart by a fatal struggle for the loyalties of men. And it is on the economic front that the decisive battles must be fought. Artist: Robert Hallock.

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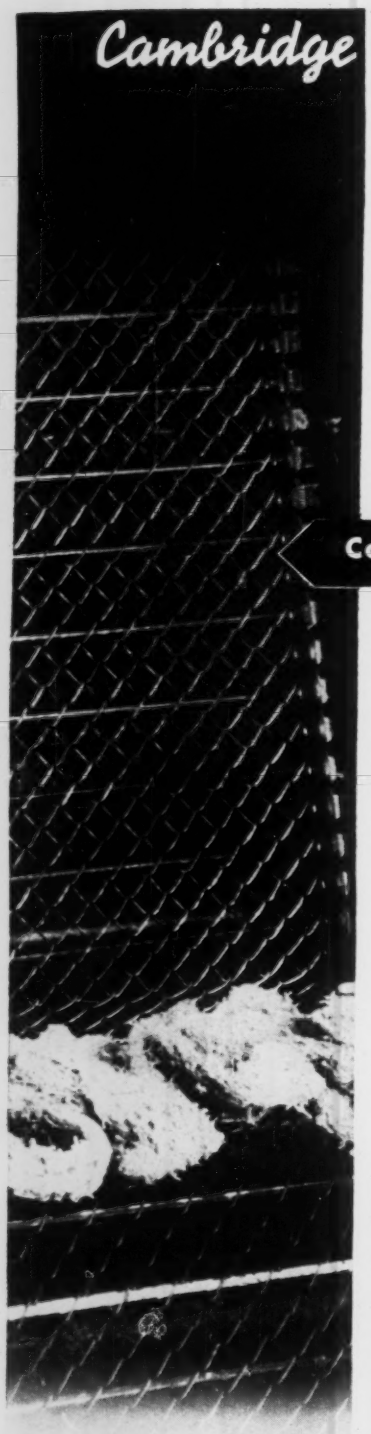

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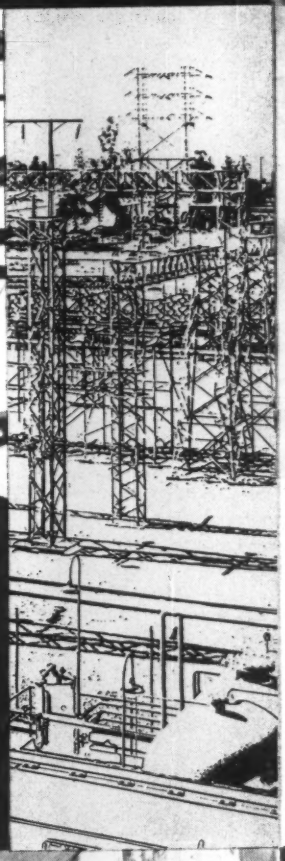
• On January 1, 1858, DUN & BRADSTREET issued its first comprehensive commercial failure analysis by states and principal markets. That was a century ago, and the statistics have been regularly compiled, appraised, and released ever since as an aid to business judgment.

The first Mercantile Agency letter, covering failures in 1857 (a dismal year for business), classified the liabilities in four categories, under the headings of "ordinary failures," "swindling and absconding debtors," "not classed dishonest but will pay little or nothing," and "likely to pay in full." (Copies of this century-old commercial failure report and the accompanying letter are available for the asking to readers of this column.)

Basic causes of failures don't change, nor do fundamental principles of survival and success, but conditions do change, and they have a significant influence on management action and decision. Failure statistics, while they are valuable as a business guide, must be used in conjunction with all other reliable indices. It is well to remember that some swimmers drown going with the current as well as against it. Commercial failures, too, are part of the economic wear-and-tear of the machinery of distribution. For an incisive study of current failure causes, read Richard Sanzo's article in this issue.

• The question of Sunday openings for retail stores involves a head-on conflict of principle and pragmatism. It is a nationwide problem, intensified by the evolution of out-of-town shopping centers and by the mobility of the customer, who may combine business and pleasure on a Sunday. The churches generally oppose Sunday shopping with the warning to "keep holy the Sabbath day," and the trade unions generally object to a seven-day work week. Many merchants also oppose the Sunday trading on the grounds that the consumer has only x dollars to spend, and the seven-day effort won't



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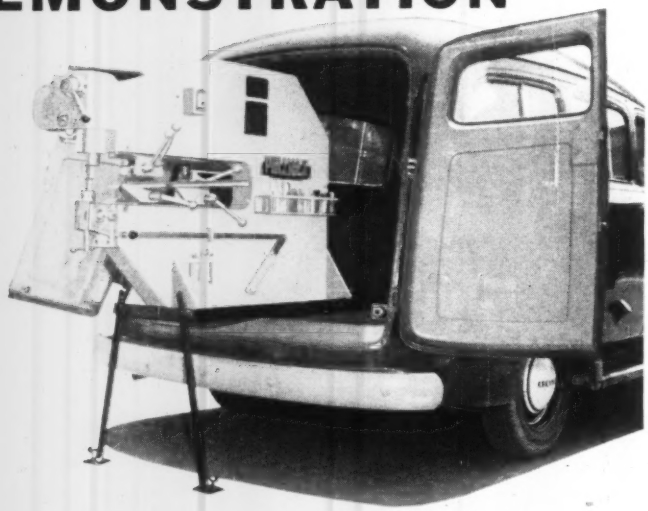

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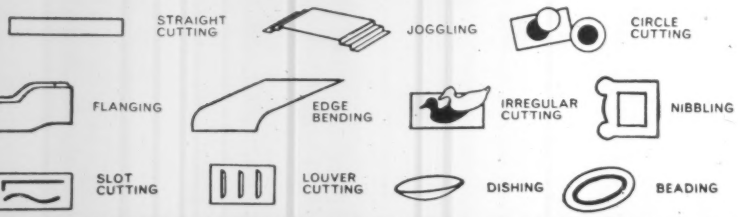

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bring in more than the six-day total. If it does, they say, the margin won't be worth the time and personal sacrifice. They suggest that the customer can do his shopping on Friday evening and all day Saturday if he can't find a convenient hour on other days. Roadside shopping on highways is accused of slowing up traffic and of necessitating special policing for parking accommodations and pedestrians' safety, and this is evidently true where there are no access roads or where the stores crowd the edges of the highways.

The pragmatic attitude of the merchant who likes Sunday shopping is that Dad is often a more liberal buyer than Mom, and he is in a receptive mood when out with the family on the Sunday ride. Of course, there is the competitive drive that makes merchants and retail services vie with each other, no matter what traditions or conditions are offended.

The Sunday shopping program trend may be impeded by legal restriction and public criticism, but in the end it is the consumer and his dollar who will exercise the deciding influence. In a future issue, Tom Kenny will present an over-all view of the Sunday shopping question, and extra perspective will be supplied by an articulate Presbyterian clergyman, William O. McGill of Wheeling, Ill., who has given a good deal of thought and study to the various problems involved.

• The ticklish question of business gifts at Christmas is discussed in this issue by Kenneth Henry. When does a gift cease to be a gift from the heart and become a shrewd tactic of the commercial mind? The margin between the good-will present and venal bait for special favor is narrow. If public servants are subject to criticism and suspicion for accepting gifts, what about the private servants of industry and trade? Doesn't the same law of conscience rule for both? Most companies would like to end the practice of commercial giving at Christmas, but find it difficult to draw the line between the act of generous instinct and the act of obvious commercial intent. Well, no company or individual can object to a friendly word given from our hearts at this Holy Season—so we wish you all a merry Christmas and a prosperous New Year.

—A.M.S.

Lawrence M. Mulvaney, office manager of John Sexton & Co., leading wholesale grocers.

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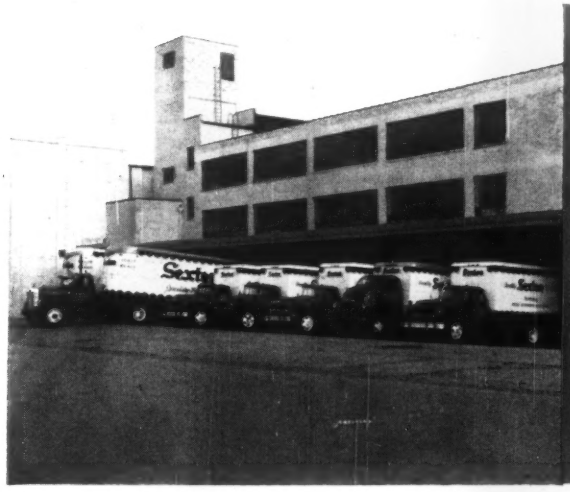

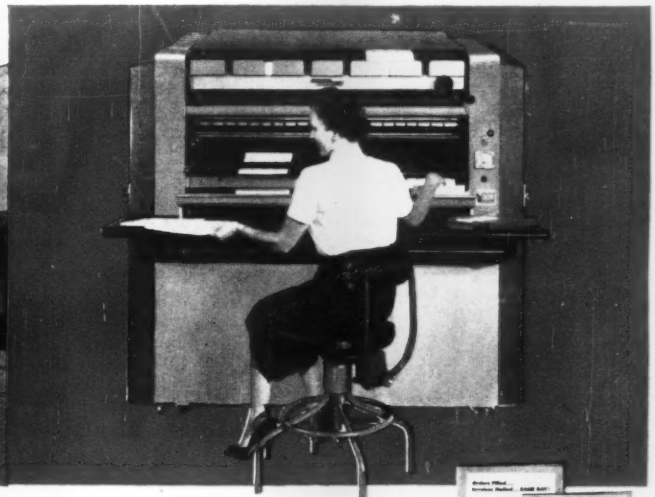

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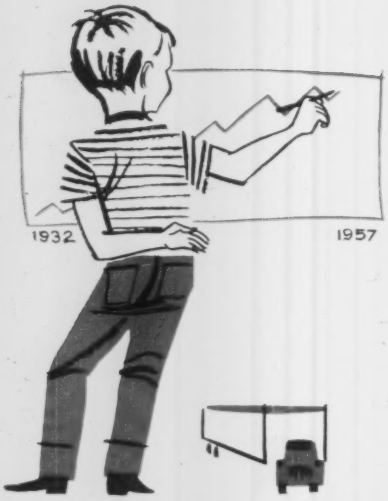

WE ARE PROUD, indeed, of the role trucks have played in creating a better way of life for peoples the world over. We of Spector—Mid-States are singularly proud to have been able to contribute to this total bounty of human well-being, both economic and cultural. And as the statistics of our population rise, as the borders of our coasts close in, as the needs of our businesses and citizens expand — we welcome the important responsibility of the continued fulfillment of our role in the American scene in the days near and beyond.

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A QUARTER CENTURY is an instant . . . and it is forever. And when a man sits down to recount from his memory the things that make up his quarter century, he takes upon himself — no matter how complete his scrapbook or corporate record — the writing of a Legend.

The Legend of Spector—Mid-States begins with two nickels and a load of walnuts. A wonderful guy — one of the handful who pioneered the first days of our industry — dropped that first nickel into a pay phone at the foot of Eads Bridge in downtown St. Louis. The man at the other end said: "If you're crazy enough to make that promise, I'm crazy enough to give you the chance." With his other nickel, Ben Spector called a gypsy trucker (they were available in those workless days of Early Depression 1932). Next morning a load of walnuts was enroute across America by hard-tire truck. St. Louis to New York. Time: 12 days. Load safely delivered. Spector—Mid-States was founded.

There was a strange similarity of economic climate in those workless days of the 30's and these bountiful late 50's. Orders were hard to come by. Nobody liked long inventories. Savings in distribution meant needed earned dollars. Only the trucks promised a new way to get the goods there fast. And at the right price.

In August of 1935, Spector—Mid-States and thousands of other motor carriers came under Federal regulation. We moved rapidly to earn our Grandfather rights. Three years later, Spector—Mid-States management (including your writer, who held one "policy referee" share of stock) made the important move to Chicago. We induced a young accountant who had worked for our auditing firm to come along. The inducement: $31.25 a week. Fifteen years later, Stan Stanhaus became our President.

Things moved along a rough but bright road during those years preceding that memorable day, December 7, 1941. We listed 10 terminals (including two makeshift garages) in Chicago, St. Louis, Boston, New Britain, Bridgeport, New York, Kansas City, Topeka, Wichita, and Philadelphia. Our revenue had risen from $½ million to six times that in the five year period.

We brought a number of innovations to our industry, a lot of them still basic to truck operations. Like the Pony Express Relay System where a trailer keeps moving right along with the driver and his tractor stopping for "refreshing". We employed modern accounting techniques and dock handling methods—like "loose bill" handling of accounts receivable, direct versus variable cost control, central checking. Above all, we adopted the concept of management development as a vital phase of growth and development.

If the First Chapter of our Legend is written in bold and imaginative terms, not so is the one that followed. The War Years. For if motor trucks proved their mettle here and overseas as a means of moving goods fast, as a means of insuring economic and military victory—the doing was not easy. Gasoline was rationed. Rubber tires were words, not facts. Spare parts? Out of production. Men to drive and lift and manage were in other places. "Get that shipment of K-rations to the Port Of Boston by Wednesday" . . . "That load of propellers *must* be at Scott Field by noon" . . . "They're short parachutes in the Mariannas—make the routing Los Angeles" . . . and so it went. By V-J Day, the Spector—Mid-States fleet had dwindled to less than 100 very tired vehicles. Our payroll numbered under 200. Only string, spit, a few bottles of glue and the headlines kept us going.

The Chapter entitled: *1946—Year of Decision* was in fact one of *no choice.* America was gearing for the greatest commercial and consumer demand since the world's beginning. Customers called for pick up—wire, chemicals, canned goods, tools and dies. We had *"Put the Customer at the Top of Our Organizational Chart"* and we worked feverishly to keep him there. We added terminals. We added men and women—310 by 1946, 490 by 1948, 800 by 1950, 1750 by 1952. We built two of the most modern terminals ever constructed—a total of 146 doors—in the heart of the nation's first Truck City in Chicago. We thought: *This ought to do us a bit.* It did—for about six months. And we were looking for more space.

We had written, a few years earlier, our Program for Progress. It called for people first. We sought out the finest young minds and personalities of other industries. Together with our older, experienced heads, we formed a management-operating group of excellent balance and productivity. Good investment? This year we will move some $48 million worth of payload. By 1958 we will rank among the four largest carriers in our industry.

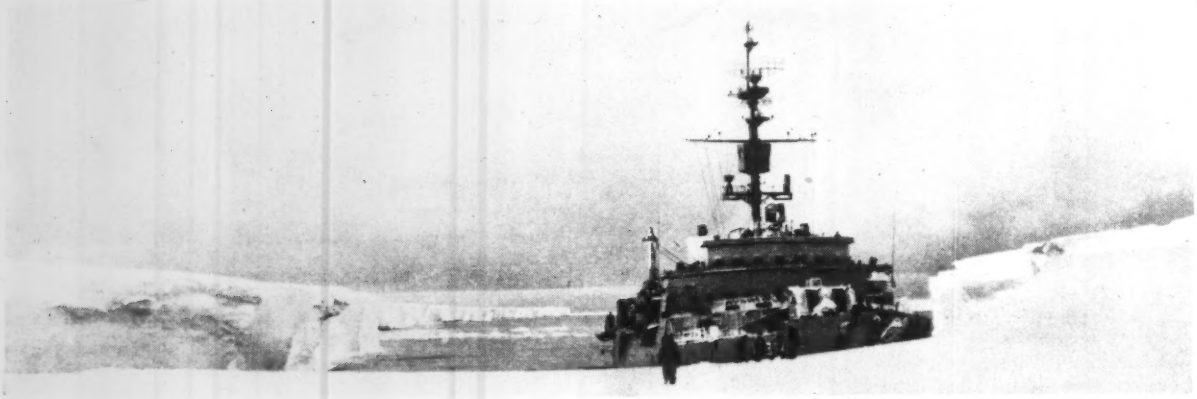
The number of zeros in our sales column, though important, have meaning only when we view them in terms of people —our people, the people who serve us, the people we serve—shippers and consumers. We have never taken our place in the American community lightly. We never will. Only by continuing to fulfill our business pledge to "take the things of America where they're needed . . . when they're needed" can we hope to fulfill the personal hopes of our 3,000 employes and of our Company's growth objectives.

Yes, they have been 25 wonderful years. Each and every one of them. I pray it may be my lot to continue to have a hand in the writing of future Chapters of the Spector—Mid-States Legend. They will be even more wonderful. Of that I'm certain.

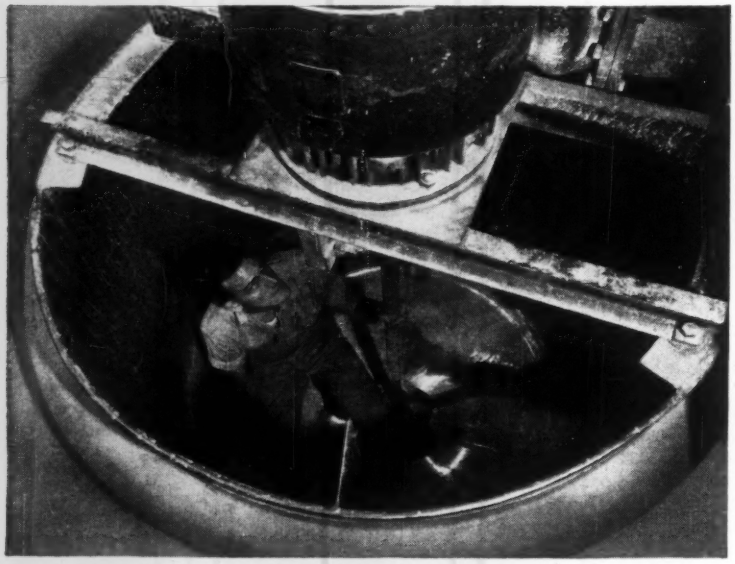
• • •

Simon Fisher, philosopher and businessman par excellence, has perhaps contributed as much as any living person to the advance of trucking management and operating practices in the course of his 25 year association with Spector—Mid-States. Named Chairman to the Board in 1955, Fisher has served as President, Central Motor Freight Association; Chairman, Eastern Highway Transport Conference; Board Member, Eastern Central Motor Carriers Association. A graduate of Washington University (L.L.B., 1923), Fisher, his wife and daughter make their home in both Chicago and Miami.

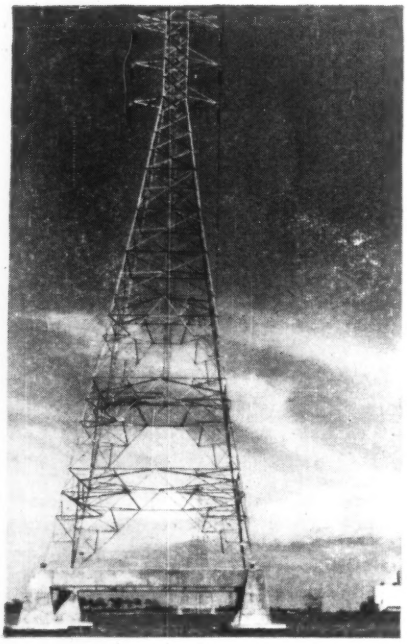
Only STEEL can do so many jobs so well



Operation Deep Freeze. Last year, to prepare Antarctic base sites for the present International Geophysical Year, U. S. Navy Task Force 43 made an almost complete circle around Antarctica. Lead vessel was the USS Glacier, powerful pride of the Navy's icebreaker fleet. In this startling picture, the Glacier pokes her tough steel nose into the desolate Atka Bay ice barrier so that scientists and Navy men can reconnoiter and plant the American flag.



The Finest Printing is Done on Clay. High-gloss papers (called enamel-coated) are covered with a thin coating of smooth, hard, lustrous clay to keep printing inks from being absorbed into the paper fibers. That clay is mixed in tanks like this one. Tanks are stainless steel because nothing else can withstand the grinding action of the clay and at the same time keep it pure and white. In fact, this stainless tank has lasted seven times as long as the previous non-stainless tank.



High Line At Low Cost. These gigantic electrical transmission towers are 198 feet high—because they must provide 100 feet of clearance for ships passing underneath in Old Tampa Bay, Florida. By using a special USS MAN-TEN High Strength Steel, 6½ tons were trimmed off the weight of each tower. The total money saving for four towers amounted to $7,200 . . . far more than the slight extra cost of the high strength steel. Another job well done with steel!

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WASHINGTON, D.C.—Plans to cut back defense expenditures were interrupted by Russia's two satellites. The evidence that a powerful weapon is in the hands of an unscrupulous dictatorship brought about an abrupt change in policy and will have a direct bearing on the appropriations by Congress after the session opens January 6. Because of this, economic forecasts may be revised upward.

One official says the Government's difficulties have been compounded by the "rapidly increasing real costs resulting from the lightning speed of technological change, particularly in the defense area."

Predictions that 1958 would be a good year have, up to this point, been based largely on increased consumer expenditures and larger outlays by state and local governments, and have made allowance for Federal cutbacks. Now it may be expected that additional money will be poured into the economy.

Figures now nearly complete for the fourth quarter indicate that gross national product has continued to go up impressively, despite a decline in foreign investment and softness in some other components. This overall growth is expected to continue in 1958. A scramble for materials is also in prospect, and Congress will review stockpiling policies, which some claim are now outdated. A demand for scientific and technical personnel will intensify.

If any tax reduction gets through at this session, small business will be the beneficiary, and the reduction is likely to be accompanied by increases in other brackets.

Receipts from corporation taxes, which now account for about 30 per cent of the Government's revenues, may be lower next year, although individual income tax receipts—which provide more than 50 per cent—are not expected to decline. Any decline in business activity, however, will give support to those lawmakers who think a reduction in the tax on corporations will stimulate the economy.

One of the greatest documents produced by the Federal Government is the annual budget. It presents the whole picture of far-flung federal activities in a way that is duplicated nowhere else, and its preparation calls for more manhours of effort in Washington than almost any other Government activity.

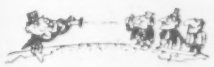
Work on the budget for the next fiscal year is practically complete, and it will be sent to Congress around the middle of January. (Printing 1,200 large-size pages of fine print and tabular matter requires nearly a month.)

The big item in the budget is "protection." It accounted for 63 per cent of the budget submitted last January, and recent developments make it doubtful that a reduction will be made. Civil benefits, which accounted for 25 per cent of the last budget, will probably not be reduced either, and interest payments in the next fiscal year will be close to $8 billion.

Consideration of economic matters at the forthcoming session of Congress will be so mixed with politics that it is difficult to forecast what may come out of the legislative hopper. An increase in the debt ceiling will be strongly opposed. Chairman Byrd of the Senate Finance Committee says it will be passed only over his dead body. And if the debt ceiling is maintained, some contractors may have to wait for their money. But increasing belief that inflation has run its course has aroused hope in the Treasury that it may be possible to pay lower interest rates on next year's refundings.

In countries that have not had bitter experience of the ravages of runaway inflation, as Germany did after World War I, inflation has become associated with good times. That attitude on the part of the public assures strong opposition in Congress to the Administration's monetary policies and will have an important bearing on the Congressional election.

The movement of the economy since 1950 has been so consistently upward that many voters are likely to interpret a desirable reduction of pace as an indication that changes of policy must be made if bad times are to be avoided.



Second only to the struggle in Congress over monetary policy will be the battle over reciprocal trade agreement extension. Vice President Nixon is advocating a five-year extension, but some of his colleagues want the law to lapse. The outcome will be somewhere between those extremes, but Commerce Secretary Weeks is sure protectionist concessions will have to be made if the act is extended.

Some observers here are saying that rank and file determination of labor union policies can be carried too far. It could not be relied upon, they point out, to check spiraling

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There's a quick easy way to test it. Place a silver dollar on the tray. It should weigh 15/16ths of an oz.

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You can trust a precision-built Pitney-Bowes Scale. The automatic pendulum registers instantly and stays accurate.

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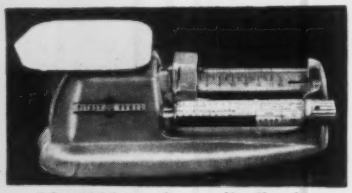
If you haven't a silver dollar handy, a Pitney-Bowes man has! Call the nearest PB office for a demonstration of the "Silver Dollar Test." Or send the coupon for free illustrated booklet.



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wage rates. Members would almost certainly vote down any proposal to forego more money—would be, in fact, less likely than union officials to consider the possible repercussions of an increase on the economy as a whole or the individual company.

Legislation denying tax exemption to unions would run into opposition not only from labor leaders, but from cooperatives, foundations, religious bodies, and other tax-exempt groups as well.

Skirmishing already has begun on the farm front. Rigid price supports apparently are a thing of the past, and Secretary Benson wants a parity spread of 50 to 100 per cent. But other parity plans will be strongly pushed and just as strongly opposed.

The legislative problem is also complicated by the fact that technology is revolutionizing farming, and big farms are absorbing small ones.

Some possible reasons why more automobiles are not being sold are pointed up by a Federal Reserve economist. Seventy per cent are purchased on the installment plan, loan maturities have shortened, and interest rates are higher. So monthly payments have risen more in the last two years than the price increase of 8 per cent would indicate. Also, under former franchise arrangements dealers frequently had to sell cars at a loss. Now the pressure to sell cars quickly is not so great.

The same source also points out some reasons why the housing boom lost momentum. Costs are 42 per cent higher than in 1947, 80 per cent of houses involve mortgage arrangements, and maturities have shortened and monthly payments are higher. Since the more desirable sites have been developed, lack of water and sewer facilities are deterrents. Finally, construction of 12 million housing units since 1947 may have resulted in some consumer satiation.

The thought is expressed, however, that the building of 1 million houses and of 6 million autos in 1957 hardly can justify the frequently used expression that they are "not selling."

Paul Wooton

The arithmetic of economics and an enlightened reforestation program

CYANAMID
PLANT No. 1
CHARLOTTE
1932

CYANAMID
PLANT No. 3
FORMICA DIVISION
FARMVILLE
TO OPEN
1958

CYANAMID
PLANT No. 2
PLYMOUTH
1956

tipped the scales for

NORTH CAROLINA

Kenneth C. Towe, president of American Cyanamid, spells out the 'arithmetic' that guided his realistic engineers in locating the new flakeboard plant of Cyanamid's Formica Division — Cyanamid's third expansion in North Carolina:

"Governmental Climate" cited by K. C. Towe (left), President of American Cyanamid, is demonstrated in discussions with North Carolina's businessman Governor Luther H. Hodges (holding piece of flakeboard). "Governor Hodges talks our language," say industrial leaders.

Availability of intelligent, quickly trainable personnel . . . accessibility to raw materials, markets, and transportation . . . community enthusiasm and governmental climate.

Active and planned conservation of natural resources has become a keynote to industrial opportunity in North Carolina. A well trained staff of development engineers await the challenge of selecting for you the right location to suit your individual requirements. Write or wire for a copy of "Industrial Location Factors" to William P. Saunders, Director Department of Conservation and Development, Raleigh 4,

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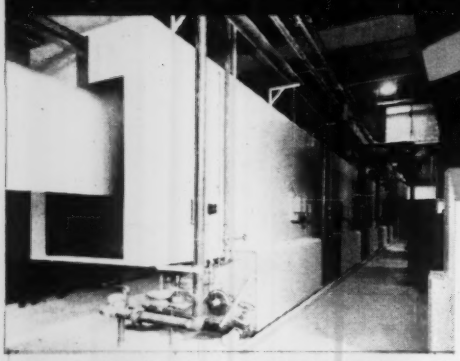
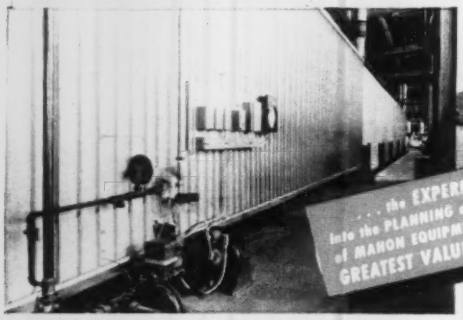
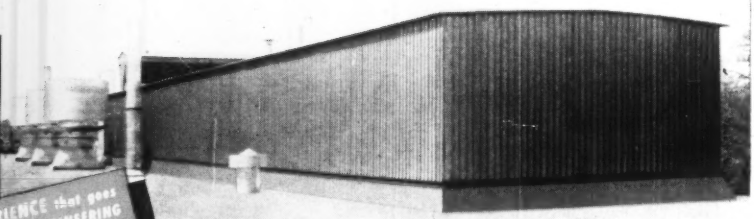


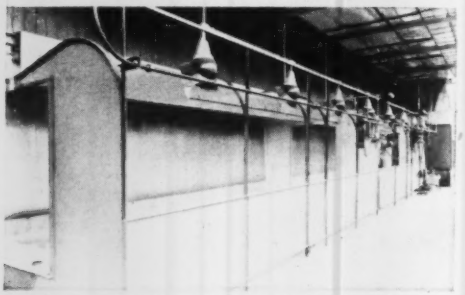
Mahon Five-Stage Metal Cleaning and Rust Proofing Machine—Part of the Complete New Mahon Finishing System at Hussmann.



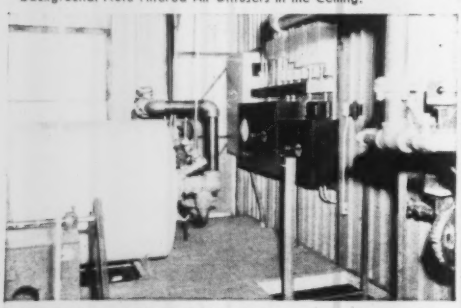
Mahon Dry-Off Oven at Exit End of Cleaning and Rust Proofing Machine. Oven Controls are visible in the foreground.



Mahon Self-Housed Finish Baking Oven installed on the Roof of the Hussmann Refrigerator Co. Plant. Air Intake, Filtered Air Supply Equipment and Heaters are Housed at the far end.



48 Ft. Mahon Hydro-Filter Spray Booth in foreground. Another 24 Ft. Spray Booth for reverse side painting is visible in the background. Note Filtered Air Diffusers in the Ceiling.



Equipment Room between Finish Baking Oven and Air Supply Room. This room houses Heating Equipment and Controls for both Units.

Mahon Installs THIRD COMPLETE FINISHING SYSTEM in Hussmann Refrigerator Plant!

In addition to several smaller projects, the Mahon Company has installed three Complete Finishing Systems for the Hussmann Refrigerator Co., St. Louis, Mo. The latest one, illustrated here, was designed to paint steel shelving. It consists of a five-stage Metal Cleaning and Rust Proofing Machine, a Dry-Off Oven, two Hydro-Filter Spray Booths, an Air Conditioned Spray Room, and a Finish Baking Oven. The Cleaning and Rust Proofing Equipment, Dry-Off Oven and Spray Room are located inside the plant; the Filtered Air Supply Equipment and the Finish Baking Oven are housed on the roof. This is a typical Mahon Finishing System designed to occupy a minimum of floor space inside the plant, and to do a particular finishing job efficiently and economically. Repeat orders from customers over a period of years is an unquestionable expression of confidence in the Mahon organization, and it is an unspoken tribute to Mahon engineering, and to the quality and operating efficiency of Mahon equipment. If you have a finishing problem, or are contemplating new finishing equipment, you, too, will want to discuss methods, equipment requirements and possible production layouts with Mahon engineers . . . you'll find them better qualified to advise you, and better qualified to do the all-important planning, engineering and coordinating of equipment, which is the key to producing the finest finishes at minimum cost. See Sweet's Plant Engineering File for information, or write for Catalog A-658.

THE R. C. MAHON COMPANY • Detroit 34, Michigan

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Engineers and Manufacturers of Complete Finishing Systems—including Metal Cleaning, Pickling, and Rust Proofing Equipment, Hydro-Filter Spray Booths, Dip and Flow Coaters, Filtered Air Supply Systems, Drying and Baking Ovens, Cooling Tunnels, Heat Treating and Quenching Equipment for Aluminum and Magnesium, and other Units of Special Production Equipment.

MAHON

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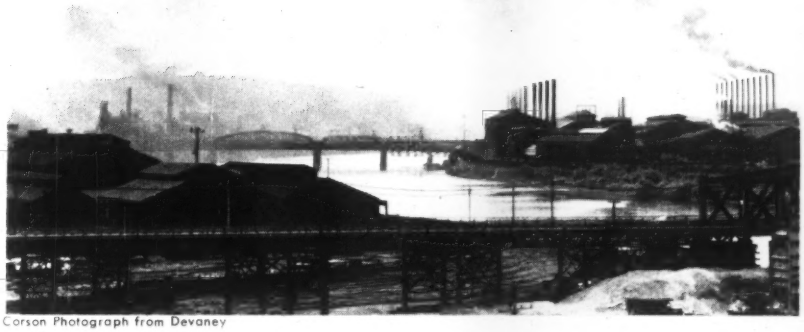

Corson Photograph from Devaney

Industrial leaders survey today's shifting business pattern . . .

- *Science and tomorrow's living*
- *Changing trends in marketing strategy*
- *Leisure: business opportunity, personal challenge*

THE IMPACT OF TOMORROW'S TECHNOLOGY

BRIG. GEN. DAVID SARNOFF, *chairman of the board, Radio Corporation of America, before the International Industrial Development Conference.*

If peace prevails, the decades ahead will see technological progress on a scale unparalleled in all our previous history. Not long ago, we saw a fatal forerunner of this technological future in the launching by Soviet Russia of the first man-made satellite—an epochal event that pointed up both the promise and the peril of the years ahead.

Never before in history have two such prodigious forces as atomics and electronics unfolded simultaneously. It will, in time, be possible for us to extract atomic fuel from relatively inexpensive materials, making nuclear power both plentiful and economical. In the not-too-distant future, the atom will supply the power for most of our ocean-going ships, our airplanes, and even trains and factories. It will light, heat, and cool houses, and run our television sets and home appliances.

The solar energy reaching the earth in a single day is equal to that released by two million wartime atomic bombs, and now we are learning how to channel it to our uses. Improving technology will give the world a vast array of new materials to meet almost any specifications. New plastics, ceramics, lubricants, and categories of substances yet unnamed will become available for personal and industrial uses.

The possibilities of science offer

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Regardless of Price!

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1500 lbs LOAD CAPACITY

ENGINEERED YEARS AHEAD

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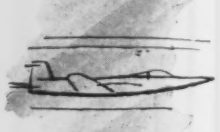
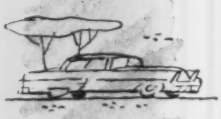
for

CORROSION-RESISTANCE, PAINT BASE on ALUMINUM and MAGNESIUM

TYPICAL APPLICATIONS

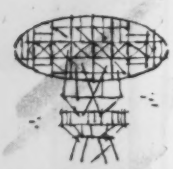


Aircraft and Missile Parts



Automobile Hardware

Outdoor Furniture



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Marine Equipment

EASE OF USE—Iridite is a simple chromate conversion treatment. Fast, easy, economical. You just dip, brush or spray it on the part at room temperature. No special equipment. No specially trained personnel.

OUTSTANDING PERFORMANCE—Forms a film that is an integral part of the metal itself. Can't flake, chip or peel. Takes paint firmly on initial application, and the bond lasts. Even protects areas scratched in use.

LOWEST COST—You have only minimum equipment cost, no special racks, high speed operation, lower overall handling costs.

CHOICE OF APPEARANCE—Clear coatings that retain metallic lustre to dark, maximum protection coatings. A variety of colors is available by dyeing.

IRIDITE # 14 and # 14-2 (Al-Coat) for ALUMINUM

Two specially formulated finishes that give you maximum latitude in aluminum treatment. Both provide excellent corrosion protection and paint base. Iridite #14-2 is an improved product that allows greater flexibility in operation and coating thickness and produces the optimum in corrosion protection.
Either coating provides corrosion resistance superior even to complicated electrolytic treatments in a fraction of the time. These coatings also offer many other valuable characteristics: they have low electrical resistance, they aid in arc-welding, provide a good base for bonding compounds, have no effect on the dimensional stability of close-tolerance parts. Final appearances ranging from clear through yellow iridescence to full brown can be obtained. By dyeing, you can produce red, green, blue, orange or yellow finishes.

IRIDITE # 15 for MAGNESIUM

Produces a protective, paint base film with corrosion resistance at least equal to that obtained from long, high-temperature dichromate treatments in a fraction of the time and at room temperature. The appearance of the coating can be varied from light brown to dark brown and black.

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SEE FOR YOURSELF WHAT IRIDITE CAN DO . . . SEND SAMPLE PARTS FOR FREE PROCESSING. Look at the results, test the protection, evaluate the savings. Also write for handy Reference File of the most complete data published on chromate conversion coatings. Or, for immediate information, call your Allied Field Engineer. He's listed under "Plating Supplies" in your classified phone book.

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the human race the chance to achieve a finer destiny. What we need most is a determination, rooted in spiritual faith, to apply our knowledge and techniques to peaceful pursuits. The answer to the question, "Will science make this a better world in which to live?" lies not with science and technology as such, but rather with each one of us as responsible individuals.

THE NEW LOOK IN MARKETING STRATEGY

ROBERT E. KAHL, *national advertising manager, merchandising and research, The Borden Co., at the 29th Annual Boston Conference on Distribution.*

Today no one seems to be satisfied with his present business or products. Everyone seems to be bent on getting into new fields, new products (the other fellow's business), and on making as many variations of his own product as he thinks he can sell.

Before the eager beavers got to work, things were going at a much slower pace. A marketing strategy, once set, lasted longer. The specialists—sales, sales promotion, and advertising—in some companies were left on their own for such long periods of time that they developed a departmental autonomy. Free from "help" or "interference," or from changes in over-all marketing strategy, they could go their separate ways without any check-back on policy.

With current marketing strategy subject to constant review and revision—due to changing products, markets, and competitive situations—business is now finding that it can no longer afford the luxury of allowing the specialized departments to go their separate ways toward the common objective of greater sales and more profits.

So another "new look" in the marketing of products, today, is the organization, coordination, and integration of the efforts of the specialized sales, sales promotion, advertising, marketing research, and product development departments into one common plan, or marketing

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PANELS

For new product beauty, quality and economy...

44 types, textures and thicknesses

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Box 777, Chicago 90, Illinois

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City..... *State*.....

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®Masonite Corporation—manufacturer of quality panel products.

How Arthur F. Brown, with an assist from chemistry,

puts color in

"**High-fashion wallpaper** and uniform pigment colors require unceasing research and painstaking craftsmanship to produce," states Arthur F. Brown. "They also call for the highest quality raw materials. We know from experience that Wyandotte meets our exacting standards. But more than that, they're always on tap to supply technical help should we need it . . . assistance that is deep-rooted and sincere, as well as practical."

your life!

TIRED OF living in a drab world? Want an emotional lift? Then turn to color!

When you do, chances are a dynamic man from Glens Falls, N.Y., will have a hand in it. For, Arthur F. Brown heads the world's largest chemical-pigment color plant, Imperial Paper and Color Corporation. Under his guidance, raw materials gathered from all parts of the globe are transformed into pigments for use in everything from paint, ink, paper, rubber, plastics, and textiles to the firm's own famous wallpaper line.

"The future for color is bright," Mr. Brown relates. "Everything you see, eat or touch will soon be more colorful—making it vital in nearly every industry's battle to win business.

"But, like any major trend, endless research is required. It's not enough that we alone should be research- and new-product-minded; we expect it of all our chemical suppliers, like Wyandotte. This makes for progress — lets you enjoy the benefits of beautiful, uniform colors at practical prices."

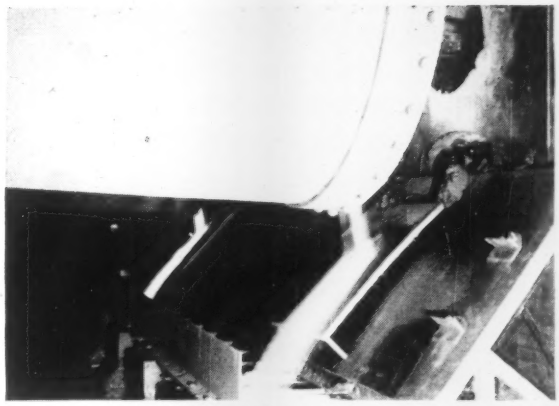
How about *your* business? If you're seeking a reliable source for raw-material chemicals, jot down this address: *Wyandotte Chemicals Corp., Wyandotte, Michigan. Offices in principal cities.*

*REG. U.S. PAT. OFF.

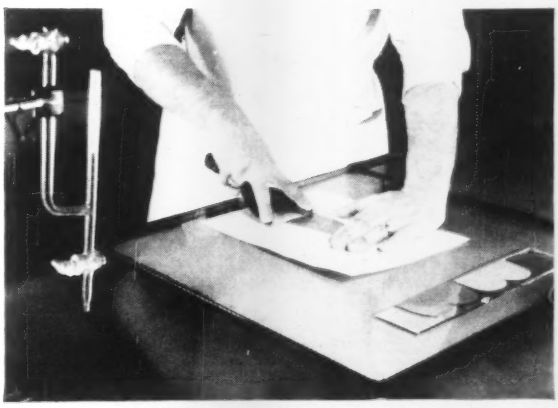
Wyandotte

CHEMICALS

Pacing progress with creative chemistry



2 **Whirling inferno.** Imperial produces chromate pigments of many hues by roasting chromite ore and Wyandotte Soda Ash in giant rotary kilns. As an economical alkali, Wyandotte Soda Ash is indispensable to nearly every industry — glass, paper, chemical, metallurgical, textile — to list just a few.



3 **Pull-down test** at Imperial gives quality check on pigment, paint or ink formulas; determines uniformity of shade, strength, gloss and other characteristics. Formulations for paint and ink often call for Wyandotte PURECAL*—to improve uniformity, brightness, hiding power, and dispersion; eliminate settling.

4 **Looking for answers?** Technical help from Wyandotte may take the form of a conference like this, an assist from our research lab, or data on new uses for established chemicals; often can spark new ideas, save duplication of research. *When you have a chemical problem,* call on Wyandotte!

No more idle trucks! (*His boss has The Hertz Idea*)

It's true! You can help yourself to the most dependable delivery service when you *lease* trucks from Hertz!

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DONALD M. HOBART, *senior vice president and director of research, The Curtis Publishing Company, at Boston Conference on Distribution.*

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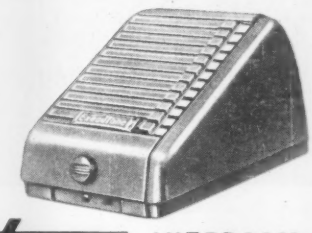

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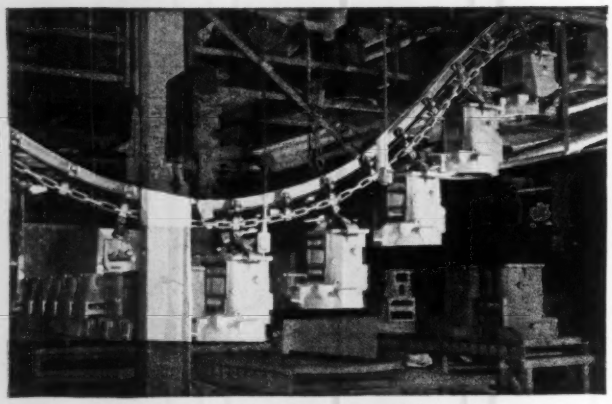
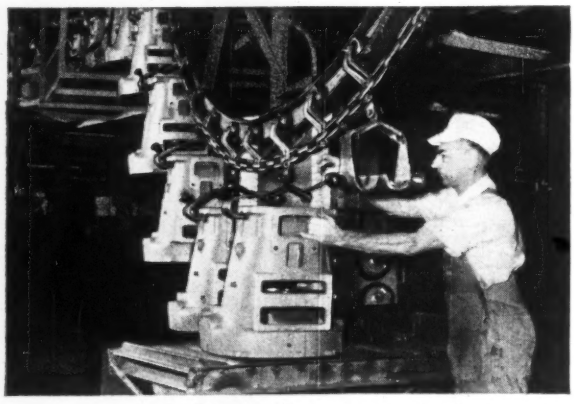
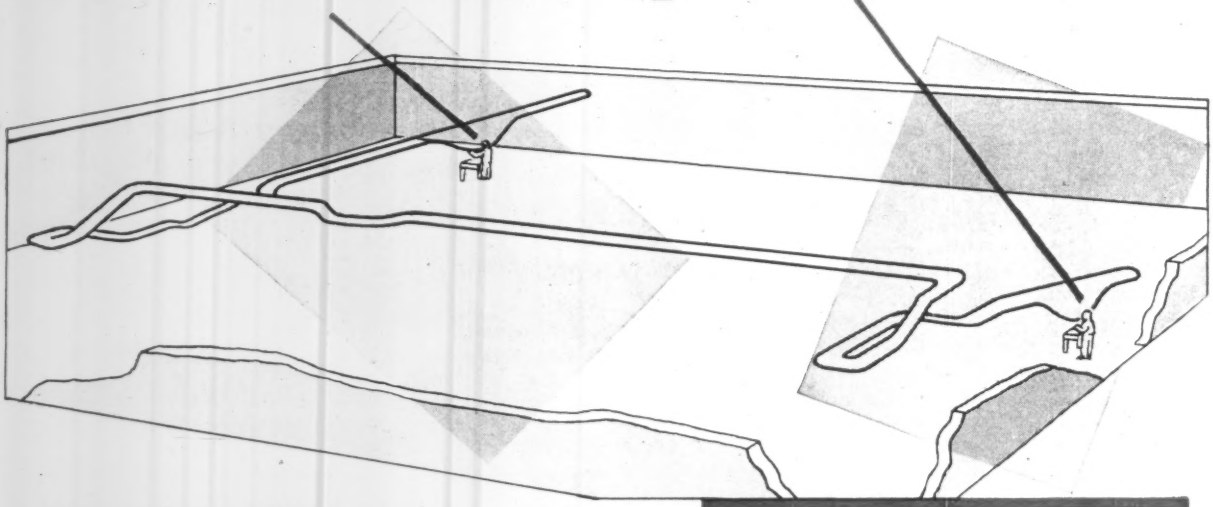


SAFE OVERHEAD STORAGE of housings on overhead trolley conveyors is provided en route to assembly. Conveyor dips down to work stations, rises out of the way where headroom is required.



FAST DISENGAGEMENT of heavy housing is made possible with easy-to-operate hooks. Link-Belt offers a full line of attachments, hooks and carriers for quick, safe handling of any article.

How to unite separate operations into 1 continuous production line



Versatile Link-Belt system puts ceilings to work, cuts handling damage at International Harvester's Farmall Works

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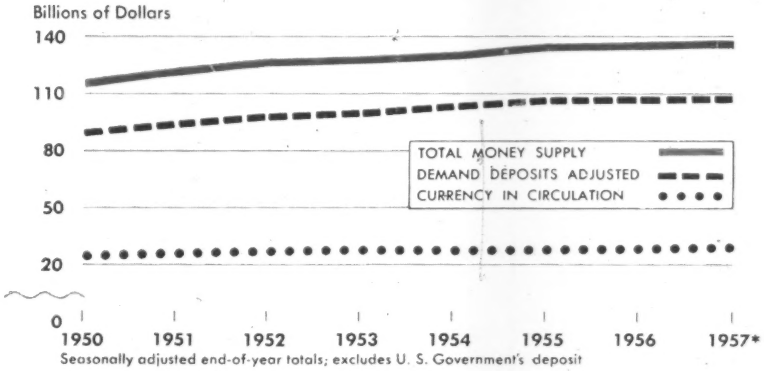
GROWTH IN MONEY SUPPLY TAPERS



Seasonally adjusted end-of-year totals; excludes U. S. Government's deposit

*Annual rate of increase occurring in period January-August

Source: Federal Reserve Board.

The current slowdown in business stems in part from tight credit control. After having allowed the money supply to increase at rates ranging from 2 per cent to 5 per cent per year in 1950–1955, the Federal Reserve limited its growth to a shade under 1 per cent in 1956 and to less than 0.5 per cent (seasonally adjusted annual rate) in the first eight months of 1957.

THE TREND OF BUSINESS

IN A NUTSHELL, the verdict on over-all business conditions is—not bad yet, but bad enough to insure plenty of headaches for policy-makers.

• The hoped-for Autumn lift in activity has not materialized. True, car sales are a bit better, housing is nudging forward, demand for consumer services is still advancing, and states and localities are spending more. But the minus signs are numerous, too: a declining export balance, a further drop in Federal outlays, a small dip in private outlays for plant and equipment, and (after allowance for seasonal factors) a reduction in sales of consumer nondurables.

• With the stock market decline likely to depress demand for some luxury goods, this Christmas season will be, at most, only 4 or 5 per cent better than last. Over the quarter as a whole, final demand will do well to remain constant; and since inventory demand should drop, physical output may decline a little.

Moreover, there are no signs of significant change in the picture for several months. Auto dealers may add to stocks this Winter as strike insurance, giving a temporary fillip to inventory investment. But final purchases in the system as a whole will not rise and might edge downward.

• The job outlook has darkened, reflecting the lull in output and a rise in productivity per worker. After allowance for seasonal factors, nonagricultural employment fell in September and October from the all-time high reached last August and is still apparently on the downgrade. Due to growth in the (seasonally adjusted) labor force, unemployment has been rising more sharply. By year-end, the seasonally adjusted rate may reach 5 per cent. Unless the workweek is cut more sharply than now seems probable, the rate seems likely to pass 6 per cent—a level regarded by many economists as the maximum permissible—some time next Spring.

• Underlying price pressures are a lot weaker than they were a year ago or even last Summer. But they still appear to be on the rise and will probably not turn definitely downward unless demand slackens further. Both the consumer price index and the over-all index of retail prices were unchanged in October but should hit new highs this month. Construction costs have not yet shown evidence of softness. The BLS index of nonfarm and nonfood product wholesale prices has held its own in recent weeks, after receding fractionally from its August peak in September and October. The indexes for farm and processed food products did weaken perceptibly this Fall. However, the Department of Agriculture expects that in 1958 the former will match and the latter exceed the average 1957 level.

Evidently, the current and prospective position is quite different from that existing over the two years that ended early last Summer. During this period, demand pressures were strong enough to support growth in jobs and output in the face of a marked uptrend in prices. As a result, the monetary authorities could (and did —see chart, page 23) hold a tight rein on credit to dampen the price movement, without danger of choking off all expansion in supply or of producing sizable unemployment.

But the era of the easy choice is over now. Unless given shots in the arm, demand will probably lack the steam to hold unemployment around what most would regard as a "full employment" level. But with the price outlook as it is, any needling might well produce more inflation—though no doubt at a considerably slower rate than prevailed between mid-1955 and early 1957. Our eco-

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nomic managers must soon decide which alternative to choose.

In spite of the Federal Reserve's recent move toward relaxation of the credit squeeze, it is still unclear what the choice will be—or, at any rate, how far the authorities will need (and be willing) to accept a further advance in prices in order to provide more jobs. One thing, however, does seem plain enough: Any *deliberate* effort to underpin spending next year will almost certainly be made from the monetary side rather than the fiscal side. While it is true that tax cuts or boosts in Federal spending are easy to engineer, the Administration is unlikely to propose use of these tools on any significant scale. Tax rates being difficult to cut once boosted and spending programs difficult to stop once started, such a policy would risk aggravating the budgetary problem a year or two hence, when the planned step-up in defense outlays really hits us. If occurring in 1958, either reduction of taxes or jumps in nondefense expenditures (e.g., Government pay) will result from Congressional initiative and reflect primarily considerations other than effects on demand.

Pickup in farming

For farm operators, 1957 will be better than 1956—ending a painful five-year slump. In early November, it looked as if 1957 would see a new peak year in the all-crop index of yield per acre. Despite reduction in

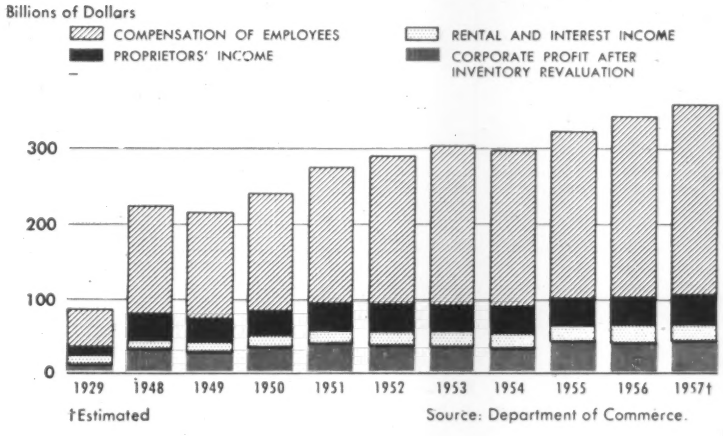
BUSINESS SIGNPOSTS

1939 Average	1947 Average	Selected *WEEKLY Indicators†	Latest Week	Previous Week	Year Ago
102	163	**STEEL INGOT PRODUCTION** Ten Thousand Tons (a)	197	199	246
25	49	**ELECTRIC POWER OUTPUT** Ten Million KW Hours (b)	120	119	116
76	121	**BITUMINOUS COAL MINED** Hundred Thousand Tons (c)	91	94	104
69	92	**AUTOMOBILE PRODUCTION** Thousand Cars and Trucks (d)	178	165	136
35	98	**DEPARTMENT STORE SALES** Index 1947–1949 = 100 (e)	143	135	151
5	13	**BANK CLEARINGS** Hundred Million Dollars (f)	127	97	128
284	67	**BUSINESS FAILURES** Number of Failures (f)	306	266	240

1939 Average	1947 Average	Selected MONTHLY Indicators‡	Latest Month	Previous Month	Year Ago
58	100	**INDUSTRIAL PRODUCTION** Index 1947–1949 = 100 (e)	142	144	146
58	95	**NONFARM COMMODITY PRICES** Index 1947–1949 = 100 (g)	125.7	126.0	123.6
37	100	**FARM COMMODITY PRICES** Index 1947–1949 = 100 (g)	91.5	91.0	88.4
59.4	95.5	**CONSUMERS' PRICE INDEX** Index 1947–1949 = 100 (g)	121.1	121.1	117.7
3.5	10.0	**RETAIL SALES** Billions of Dollars (h)	16.8	16.4	16.1
5.4	15.6	**MANUFACTURERS' SALES** Billions of Dollars (h)	28.2	29.1	27.5
45.8	58.0	**EMPLOYMENT** Millions of Persons (h)	66.0	65.7	66.2
72.9	190.5	**PERSONAL INCOME** Billions of Dollars, seasonally adjusted annual rate (h)	345.5	346.5	334.1
103	257	**BUILDING PERMIT VALUES** Millions of Dollars (f)	501.3	524.4	535.2

SOURCES: (a) Amer. Iron & Steel Inst.; (b) Edison Elect. Inst.; (c) U.S. Bureau of Mines; (d) *Automotive News*; (e) Federal Reserve Board; (f) DUN & BRADSTREET, INC.; (g) U.S. Bureau of Labor Statistics; (h) U.S. Department of Commerce. †WEEKLY INDICATORS: Steel, autos, and bank clearings data for third week of November; all others for second week. ‡MONTHLY INDICATORS: Manufacturers' sales for September; all others for October.

TREND IN NATIONAL INCOME



The postwar rise in national income, to a level far above that of the last 1920's, has been accompanied by sharp changes in its distributon. Employees' compensation has more than quintupled over the past three decades, outstripping growth in any other sector and representing seven-tenths of the grand total in 1957 as against less than three-fifths in 1929. On the other hand, rental and interest incomes less than doubled.

acreage for basic crops, total crop volume may also set a record. Corn, wheat, and cotton will all decline somewhat, but these dips will be balanced or outweighed by higher output of oats, barley, rye, and, especially, sorghum grain.

Aided by substantial soil bank payments and moderately higher prices, gross farm income should rise by $900 millions (about 2.5 per cent) above its 1956 level. Much of this will be offset by higher costs, but net income should advance around $300 millions, or about 3 per cent. Since the number of farms is still declining, the average gain per unit will be somewhat larger—in the neighborhood of 4 per cent.

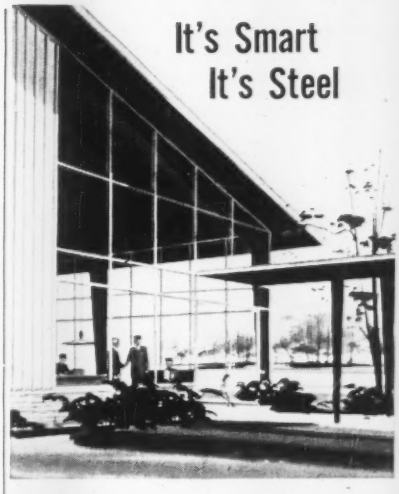
Next year, farmers will probably do better but only a bit at best. Crops should match or exceed this year's totals and, on the average, prices are unlikely to decline. However, the rise in soil bank payments will be smaller and the over-all gain in gross income will be largely offset by higher expenses. As a result, net income per farm should not advance by more than 2 per cent.

Nonetheless, the outlook for farm equipment sales is rather encouraging. Enough money will be available to support a further rise in capital spending, and the sharp uptrend in farm wage rates, coupled with crop prospects, will continue to provide operators with strong incentive to mechanize.

Housing on the upgrade

Near-term prospects for private nonfarm residential building remain good. After allowance for seasonal factors, housing starts advanced in October to an annual rate of 1 million, while total housing value put in place rose again for the fourth straight month to a new peak for the year. Moreover, heavy third-quarter contract awards, and the persistent uptrends in outlays for major additions and alterations, virtually insure further improvement over the next several months. And in early November FHA Commissioner Mason reported that his agency was "swamped" with applications for Government backing of home mortgages. This suggests that on a seasonally adjusted basis starts will rise well into the Winter months at least.

There is still much disagreement about housing prospects for 1958, but on balance the outlook is fairly encouraging. The critical factor will continue to be mortgage money, not basic demand or production capacity. Only a major reversal in monetary policy could provide the sum required for a big step-up in physical volume. However, both moderate over-all easing of credit and some increase in the kinds of savings that find their way into the mortgage market seem likely. These additions to supply, together with that resulting from prospective decline in busi-



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ness needs for external financing (see below) will prompt a gradual uptrend in outlays next year. For the year as a whole, the gain over 1957 should at least equal and might well exceed that estimated by the Departments of Labor and Commerce in their mid-November projection—around 6 per cent ($1 billion plus).

Capital outlays: small dip ahead

Private domestic outlays for fixed capital promise to set a unique pattern this year: virtual stability at record height. In aggregate, spending for producers' equipment and for private nonresidential building crept forward last Summer for the second straight quarter. Preliminary information suggests that spending this quarter will about hold its own. In October, work in progress on private nonresidential structures, after adjustment for seasonal factors, ran close to its third quarter average, and it will probably do so for the quarter as a whole. Meanwhile, new orders and backlogs for machinery and nonmilitary transportation equipment were large enough in early Autumn to support deliveries of producers' durables at close to their Summer rate for several months.

Will there be a major drop-off after that? Some observers think so. They point to the stock market break, which has somewhat soured the prospects for equity financing of capital projects. In addition, they emphasize lack of zip in over-all demand and related appearance of over-capacity in some lines.

These factors are real enough, and they spell substantial reduction in outlays for manufacturing as a whole and for railroads. However, other important fields will register further gains. On balance, only a modest drop in the grand total now seems likely.

True, the latest extensive check of capital spending plans (made after the market decline was well underway) indicates that producers intend to cut spending by 7 per cent next year. As a rule, however, Autumn surveys of investment plans for the year ahead have tended to undershoot; they fail to reflect the solidification of capital budgets which usually takes place around year-end. Moreover, certain other types of spending—notably private institutional building and farmers' purchases

of equipment—are likely to rise a bit. And the step-up in long-range defense plans could lead to some anticipatory work on new facilities in the closing months of the year.

The odds, therefore, are that the dip in aggregate dollar outlays for equipment and private nonresidential construction will be fairly small. It may even be no greater than the 1953–1954 drop (about 4 per cent in dollar terms).

Evidently, the sag in stock prices had no serious dampening effect on capital spending plans. One reason, perhaps, is that business as a whole should have to depend less on external funds next year. Preliminary data suggest that corporate profits did not do too badly last Summer. While reported earnings ran below their second quarter level, the dip appears to have been no more than seasonal. (The First National City Bank's tabulation, covering 810 companies, put the third quarter total 11 per cent above the year-ago level. Last Spring, on a seasonally corrected basis, profits for all corporations were less than 3 per cent higher than they had been the preceding Summer. The National City sample, which is composed primarily of large concerns, probably overstates the over-all change in earnings. Even allowing for this and other seasonal biases, however, a decline from the seasonally adjusted second-quarter rate seems improbable.) As a result, 1957 earnings should approximate those of 1956, although fourth-quarter profits are virtually certain to run below the all-time peak of a year ago. Moreover, since inventory profits will be about $1 billion smaller this year, over-all operating profits might even rise a little. Profit margins, of course, will not reach their 1956 level.

A significant decrease in after-tax operating profits should occur in 1958. But depreciation charges will be much higher, and inventory investment may decline. This suggests that in the coming year the average business might well be able to finance more of its fixed capital program (which will itself be lower) from internal sources.

This is a report prepared in the Business Economics Department, Dun & Bradstreet, Inc., by Edwin B. George and Robert J. Landry.

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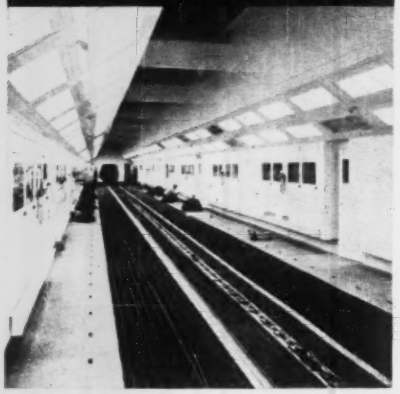

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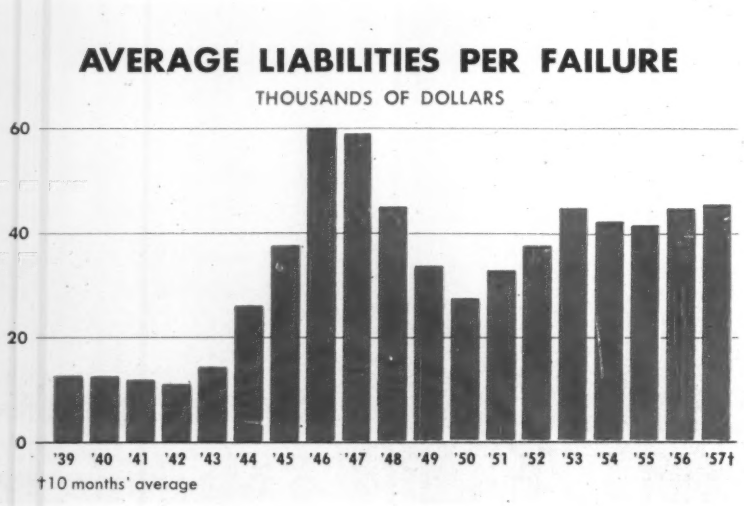

AVERAGE LIABILITIES PER FAILURE
THOUSANDS OF DOLLARS
60
40
20
0
'39 '40 '41 '42 '43 '44 '45 '46 '47 '48 '49 '50 '51 '52 '53 '54 '55 '56 '57†
†10 months' average

Average liabilities per casualty, after rising to postwar highs in 1946 and 1947 when failures of manufacturers exceeded those of retailers, appear to be levelling off in 1957.

FAILURES: Levels Down from Last Year

IN BOTH number and size, business failures edged up in October, but the more significant year-to-year comparisons showed a slight drop. A total of 1,222 concerns, 5 per cent more than in September, succumbed during the month, and liabilities amounted to $47.4 million, or 4 per cent more than in the previous month. In October 1956, however, there were 1,158 casualties with liabilities of $50 million.

The failure rate in relation to the business population, as reflected in DUN'S FAILURE INDEX, dipped to 52 per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book* from the postwar high of 59 recorded in September. In October last year, 53 casualties occurred per 10,000 listed concerns, while the prewar rate in 1939 was 73.

More businesses failed than in the previous month in all size groups except the $5,000 to $25,000 class, and in all industry and trade groups except commercial service.

Mining and manufacturing failures climbed to the highest level since March. Nearly all the October rise was concentrated in the mining and apparel industries. Wholesalers and construction contractors suffered the heaviest casualties in five months, and subcontracting accounted wholly for the construction increase. Meanwhile, the total among retailers, although rising from September, continued below any other month of this year. In fact, failures dipped in October in all retail trades except the automotive, food, restaurant, and drug lines.

Fewer trade and construction businesses failed than last year, declines ranging from 3 per cent in construction to 7 per cent in retailing and 12 per cent in wholesaling. The total for general builders dropped considerably from 1956, but an in-

THE FAILURE RECORD

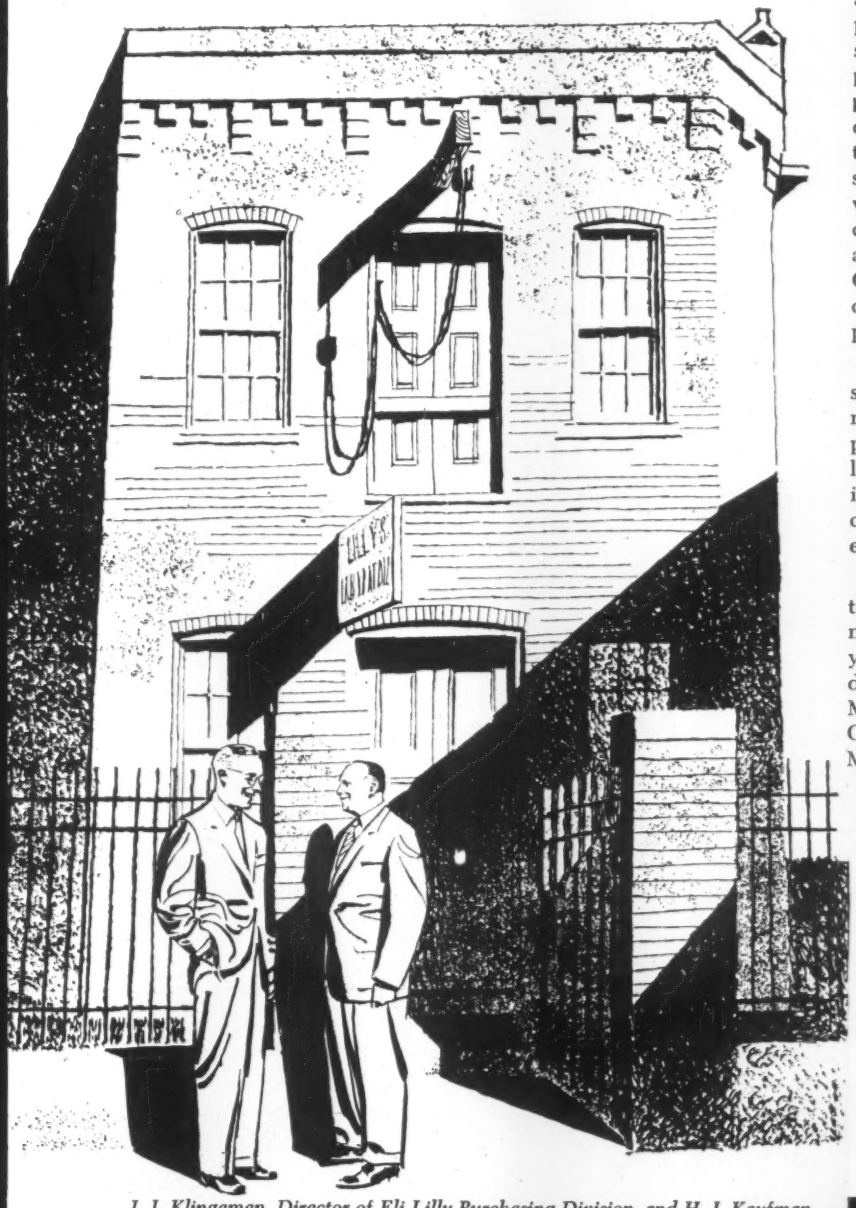
	Oct. 1957	Sept. 1957	Oct. 1956	% Chg.†
DUN'S FAILURE INDEX*				
Unadjusted	48.9	50.5	50.6	− 3
Adjusted, seasonally	51.5	58.7	53.3	− 3
NUMBER OF FAILURES	1122	1071	1158	− 3
NUMBER BY SIZE AND DEBT				
Under $5,000	176	159	188	− 6
$5,000–$25,000	522	529	560	− 7
$25,000–$100,000	334	296	303	+10
Over $100,000	90	87	107	−16
NUMBER BY INDUSTRY GROUPS				
Manufacturing	214	182	198	+ 8
Wholesale Trade	99	96	112	−12
Retail Trade	544	535	584	− 7
Construction	176	164	182	− 3
Commercial Service	89	94	82	+ 9
LIABILITIES (in thousands)				
CURRENT	$47,428	$45,420	$50,004	− 5
TOTAL	47,564	45,463	50,343	− 6

*Apparent annual failures per 10,000 enterprises listed in the Dun & Bradstreet *Reference Book*.

†Per cent change, October 1957 from October 1956.

In this record, a "failure" occurs when a concern is involved in a court proceeding or in a voluntary action likely to end in loss to creditors. "Current liabilities" here include obligations held by banks, officers, affiliated and supply companies, or the governments; they do not include long-term publicly held obligations.

thirty years as good neighbors in Indianapolis



I. J. Klingaman, Director of Eli Lilly Purchasing Division, and H. J. Kaufman, Standard Oil Regional Manager, stand before historic building on Lilly plant grounds. The Lilly Company had its beginning in this building more than 81 years ago.

FOR MORE THAN 30 years Eli Lilly and Company and Standard Oil have been industrial neighbors in Indianapolis. Standard Oil supplies petroleum products to this leading pharmaceutical manufacturer's McCarty Street plant and its laboratory at Greenfield, Indiana, a short distance from Indianapolis.

In the course of these years as a supplier, Standard Oil technical service has accompanied the sale of petroleum products. This service has been supplied by men with experience in engineering and in the use of petroleum products. Standard's man currently on the Lilly account is John T. Stark, a native of Indianapolis. For five years, ever since graduating from Brown University with a degree in chemistry, John has been calling at Eli Lilly. He had 17 weeks off this assignment in 1953 to attend the Standard Oil Sales Engineering School, where he received special training in the application of petroleum products.

But underneath this relationship between supplier and customer—the technical service rendered, the courtesies given and received, products bought and products sold—there lies something even deeper, something that is very good. It is the respect two industrial companies have for one another, which has endured to mutual advantage for 30 years.

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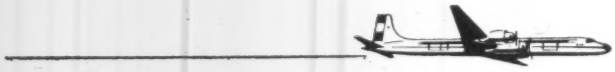
STANDARD OIL COMPANY
(Indiana)



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EXPERTS WITH EXPORTS

FAILURES BY DIVISION OF INDUSTRY

(Current liabilities in millions of dollars)	Number 10 Months 1957	1956	Liabilities 10 Months 1957	1956
MINING, MANUFACTURING	1990	1947	163.8	157.7
Mining—Coal, Oil, Misc.	61	33	9.0	7.3
Food and Kindred Products	157	161	10.6	9.1
Textile Products, Apparel	413	479	24.4	30.1
Lumber, Lumber Products	414	332	20.6	20.9
Paper, Printing, Publishing	117	116	8.9	7.0
Chemicals, Allied Products	49	53	4.4	12.3
Leather, Leather Products	54	71	6.2	4.2
Stone, Clay, Glass Products	47	31	2.0	4.7
Iron, Steel and Products	91	111	25.8	10.4
Machinery	195	232	18.8	27.8
Transportation Equipment	58	47	7.1	3.3
Miscellaneous	334	291	25.9	20.7
WHOLESALE TRADE	1026	1041	66.5	65.3
Food and Farm Products	240	248	15.2	11.0
Apparel	38	45	2.4	2.1
Dry Goods	27	40	1.0	1.3
Lumber, Bldg. Mats., Hdwre	114	132	6.6	17.1
Chemicals and Drugs	39	39	1.5	1.2
Motor Vehicles, Equipment	62	58	3.1	3.4
Miscellaneous	506	479	36.8	29.2
RETAIL TRADE	5822	5387	157.9	133.6
Food and Liquor	925	914	20.7	15.3
General Merchandise	237	237	10.5	8.5
Apparel and Accessories	977	1028	20.4	26.3
Furniture, Furnishings	860	665	32.6	22.2
Lumber, Bldg. Mats., Hdwre	403	332	11.9	9.7
Automotive Group	728	600	18.2	18.6
Eating, Drinking Places	1051	966	23.7	19.8
Drug Stores	134	137	3.3	2.9
Miscellaneous	507	508	16.7	10.1
CONSTRUCTION	1737	1480	91.2	81.6
General Bldg. Contractors	657	560	51.3	44.7
Building Subcontractors	979	843	31.6	32.4
Other Contractors	101	77	8.3	4.4
COMMERCIAL SERVICE	911	850	37.7	34.3
TOTAL UNITED STATES	11,486	10,705	517.1	472.5

Liabilities are rounded to the nearest million; they do not necessarily add up to totals.

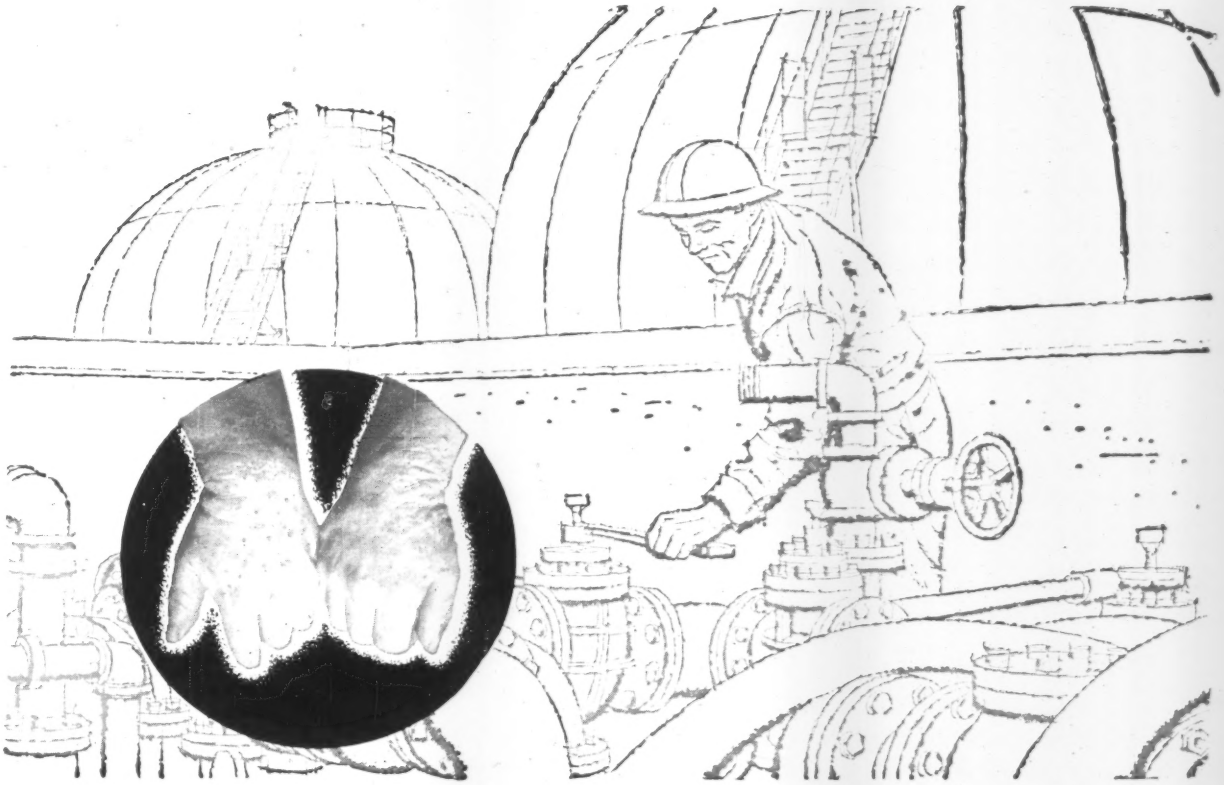
crease appeared in other types of contracting.

Among retailers, trends from last year's level were mixed. Casualties fell off in the food, general merchandise, apparel, and building materials lines. These decreases were partially offset by a marked rise in automotive failures and slight advances in eating and drinking places and in furniture and drug stores.

Manufacturing and service enterprises suffered more severely than in October 1956. Casualties climbed sharply in the mining industry, and totals in food and furniture manufacturing edged up slightly. In some industries, however, the picture was less gloomy—only one-half as many machinery manufacturers succumbed, for instance. The service increase of 9 per cent occurred mostly among establishments providing business services.

Geographically, all the month-to-month increase in October centered in four regions, the New England, Middle Atlantic, West South Central, and Mountain States.

This report was prepared in the Business Economics Department, DUN & BRADSTREET, INC., by Rowena Wyant.



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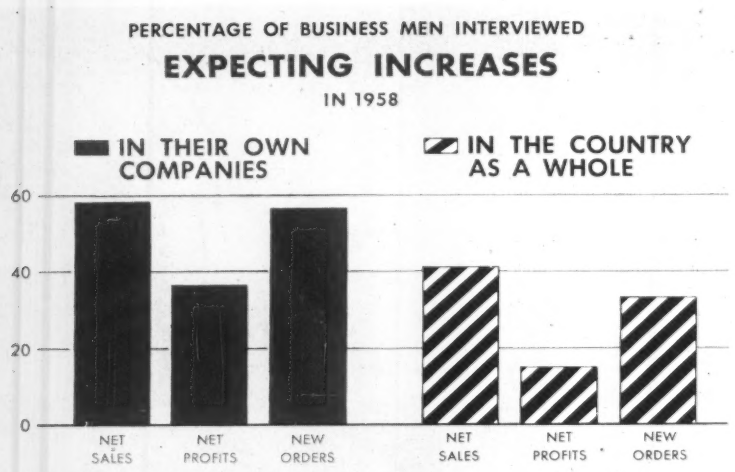
What's ahead for your business —and for business across the nation? Here's how 1,627 representative business men feel about a crucial question.



Most business men were noticeably more optimistic about prospects for 1958 in their own concerns than they were for the country as a whole. Twice as many executives foresaw bigger profits for their own companies than expected an increase nationwide.

WHAT BUSINESS EXPECTS IN 1958

DESPITE RECENT REPORTS of sluggish trade, cuts in defense spending, and lagging housing starts, business men look forward to 1958 as a year of continued high business activity, both for their own companies and for the national economy, it appears from the latest DUN & BRADSTREET poll of business men's expectations, conducted in mid-October. However, the executives surveyed were somewhat more optimistic about 1958 prospects for their own businesses than they were for the nation as a whole.

Almost one-third of a total of 1,627 executives interviewed expected narrowing profit margins to be their outstanding problem, but about eight out of ten anticipated that 1958 profits would equal or exceed those of 1957. Manufacturers were slightly more optimistic than either retailers or wholesalers, and makers of nondurable goods were noticeably more hopeful than durable goods manufacturers.

Many hope to achieve an increase in profits through expansion. Of those reporting on 1958 plans, 23 per cent were most interested in adding to their facilities and their product lines; 13 per cent hoped to concentrate primarily on improving sales methods through better merchandising and more extensive advertising. Only 1 per cent had any idea of cutting down production, and somewhat more than 30 per cent reported no definite plans.

Net profit prospects in the country as a whole seemed less hopeful to the business men surveyed. Those expecting a nationwide decline in net profits in 1958 were over twice as numerous as those looking forward to an increase.

(It should, of course, be kept in mind that the sentiments reflected in this survey may have changed since the interviews took place. As with any survey of expectations, subsequent events can easily modify the thinking of the respondents.)

Sales Expectations High

Some 91 per cent of all those interviewed thought that their sales next year would equal or exceed those of 1957. Retailers and durable goods manufacturers were a little less hopeful on this than wholesalers and producers of nondurables, and a larger proportion of them expected sales to be their greatest problem in 1958.

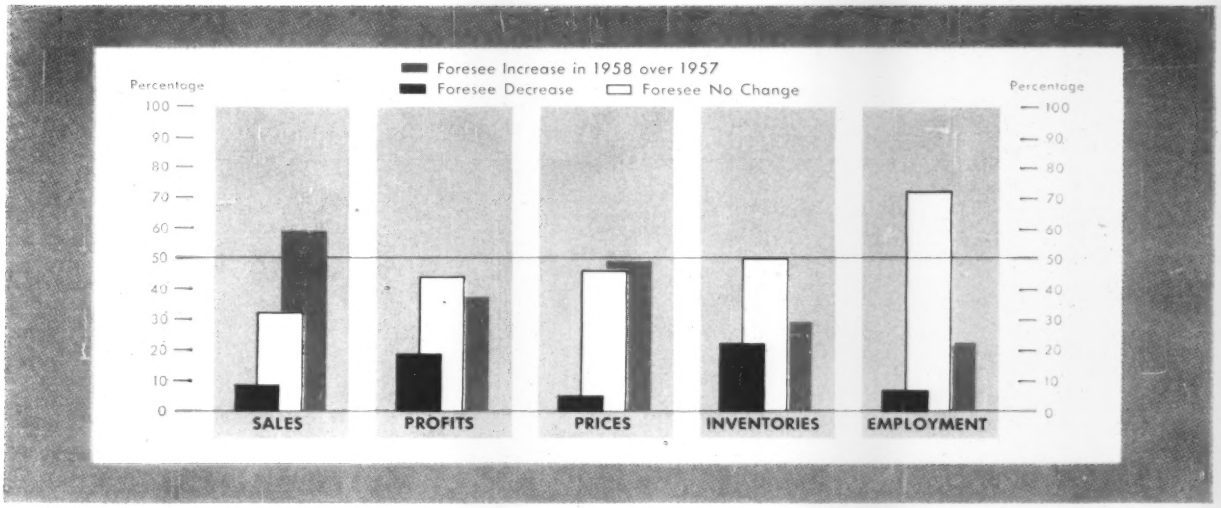
Executives were considerably less optimistic in viewing 1958 sales prospects on a nationwide basis. Those who foresaw higher dollar sales included 45 per cent of the retailers, 41 per cent of nondurables manufacturers, and 36 per cent of the manufacturers of durable goods.

Prices Rises Anticipated

Many of the business men, especially among the retailers, expected higher prices to account for much of the rise in dollar sales. For every retailer who anticipated price reductions in his own company, eleven foresaw increases. Unchanged price levels were most often predicted by manufacturers of nondurable goods. Wholesalers, more frequently than any of the other groups, were of the opinion that setting selling prices would be their chief problem in 1958.

While 49 per cent of those interviewed foresaw hikes in their own selling prices, 55 per cent anticipated general price increases in the United States as a whole. The expectation that prices would be higher, nationwide, in 1958 was most pronounced among wholesalers, of whom 56 per cent foresaw price increases.

Although wholesale prices declined somewhat in September and the beginning of October, consumer prices continued to rise in September. How-



ever, Government officials expect the consumers' price index (Bureau of Labor Statistics) to level off in the last quarter of 1957 and possibly decrease in January.

Inventories: Little Change

Half of the executives participating in the survey believed there would be no change in the level of their inventories next year, and 28 per cent anticipated increases. Those expecting bigger inventories were most numerous among nondurable manufacturing concerns. Retailers anticipating inventory reductions somewhat outnumbered those looking forward to increases. In considering their plans for 1958, retailers and wholesalers most often stated that they were likely to concentrate on reducing inventories.

Almost the same percentage of concerns anticipated decreases as increases in the level of 1958 inventories for the country as a whole. However, 6 per cent more of the manufacturers of durable goods expected reductions than anticipated increases. Only 22 per cent of the wholesalers interviewed believed national inventories would be lower at the end of next year, as against 78 per cent who thought the same or higher levels would prevail at the end of 1958. Much of this rise will probably be attributed to higher price levels.

Nearly three-quarters of all the concerns – particularly among the wholesalers and retailers—expect to have the same size workforce in 1958 as in 1957. Increases were expected most often among durables and nondurables manufacturers.

Six per cent of all the executives thought labor turnover would be their most significant problem in 1958. This feeling was especially prevalent among durable goods producers, who also most commonly anticipated labor relations problems.

Here, again, the business men were more pessimistic in looking at the nationwide employment prospects for 1958. Seven per cent expected decreases in employment than foresaw increases. Manufacturing concerns were more pessimistic than others.

Manufacturers were extremely hopeful in predicting the levels of new orders in their own companies. Over 90 per cent of all the manufacturers interviewed expected incoming orders to match or surpass 1957's totals. Among producers of nondurables, the ups outnumbered the downs by nearly twelve to one. Thirteen per cent of durable goods concerns foresaw declines in new orders.

The opinions of manufacturers on the national picture in this respect were moderately optimistic. Eighty-two per cent expected new orders to equal or exceed 1957 levels.

About 8 per cent of those interviewed expected collections to be their principal problem in 1958, and 2 per cent anticipated financing problems. Roughly one-tenth foresaw no special problems next year.

This is a report prepared in the Business Economics Department, Dun & Bradstreet, Inc., by John W. Riday.

BUSINESS EXPECTATIONS: 1958 vs. 1957

Figures represent percentage breakdown of opinions ■ for respondents' companies ▩ for the country as a whole

	ALL CONCERNS			MANUFACTURERS			WHOLESALERS			RETAILERS		
	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease
SALES	59 41	32 41	9 18	60 38	32 42	8 20	58 43	33 40	9 17	60 45	28 38	12 17
PROFITS	37 15	44 52	19 33	40 15	42 52	18 33	32 15	47 53	21 32	41 15	40 53	19 32
PRICES	49 55	46 39	5 6	46 54	50 40	4 6	55 56	50 38	5 6	55 55	40 40	5 5
INVENTORIES	28 24	50 51	22 25	28 24	52 48	20 28	29 26	48 52	23 22	25 19	47 57	28 24
EMPLOYMENT	21 16	72 63	7 23	26 15	65 59	9 26	14 15	81 63	5 22	16 17	76 63	8 20
NEW ORDERS	—	—	—	57 33	34 49	9 18	—	—	—	—	—	—

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INDUSTRY LOOKS AT ITS INVENTORIES

One clue to 1958's business climate—and an important one—is year-end sales and inventory expectations. That's why these survey findings should be encouraging to the business men who have been anxiously scanning the economic skies for signs of stormy weather.

ASKED THE USUAL QUESTION about the state of his business, one business man recently revealed his frame of mind as follows: "Business is fine—but when will it begin to revive?"

This unenthusiastic, mildly anxious response seems to typify the change in business sentiment that has occurred since mid-Summer. Where earlier this year business was thinking in terms of expansion and inflation, its mood is now characterized by hesitancy and a wait-and-see attitude.

In view of this, sales expectations for the fourth quarter of 1957 and expectations of relative inventory positions as of December 31, 1957, can provide some important clues to business attitudes and possible business actions in the coming year.

Makeup of the Sample

A survey of fourth-quarter 1957 sales expectations and the attitudes of business men toward their closing fourth-quarter inventories was conducted by DUN & BRADSTREET during the two weeks ended November 10, 1957. Interviews were obtained with a random cross-section of 1,779 business concerns across the country. Approximately one-half of these were manufacturers, and the remainder were evenly divided between wholesalers and retailers.

These business men were asked four questions. The first was: "Do you expect that your sales for the fourth quarter of 1957 will be higher, lower or about the same as for the fourth quarter of 1956?"

Of the 1,779 concerns queried, 42 per cent replied, "Higher"; 36 per cent, "No change"; and 22 per cent, "Lower." Among manufacturers and wholesalers, those who looked for higher sales outnumbered by approximately two to one those who thought sales would be lower. Retailers were only slightly less optimistic: 39 per cent looked for increases, 37 per cent felt they would match last year's fourth-quarter sales, and 24 per cent expected a decline.

Producers of food products, apparel, paper, and transportation equipment were among the more buoyant forecasters of sales increases for the quarter, while manufacturers of furniture, primary metals, fabricated metal products, and machinery were more bearish. It was also significant that 53 per cent of the department, chain, and variety stores interviewed anticipated higher sales, as against 21 per cent who thought sales would be lower.

Where Hopes Are Highest

On a geographical basis, business men in the New England, West North Central, West South Central, and Mountain states showed the greatest optimism about their sales expectations. The sales expectations of the business men interviewed reflected promising prospects for the fourth quarter, and it was apparent that the great majority of the retailers thought that they would match or break their own 1956 sales records.

From the survey findings it was evident that sales expectations would affect inventories on hand at the end of the quarter. Among all the business men queried, 32 per cent thought their closing inventories would be higher this year than at the end of 1956. Forty-five per cent expected no change, and 23 per cent foresaw lower inventories. In the aggregate, the views of manufacturers, wholesalers, and retailers were strikingly similar in this respect. It seems significant that the lines of business where expectations of higher year-end inventories were most common also expressed the brightest sales expectations, while the industries most frequently expecting lower inventories are those which are already beginning to experience lower sales.

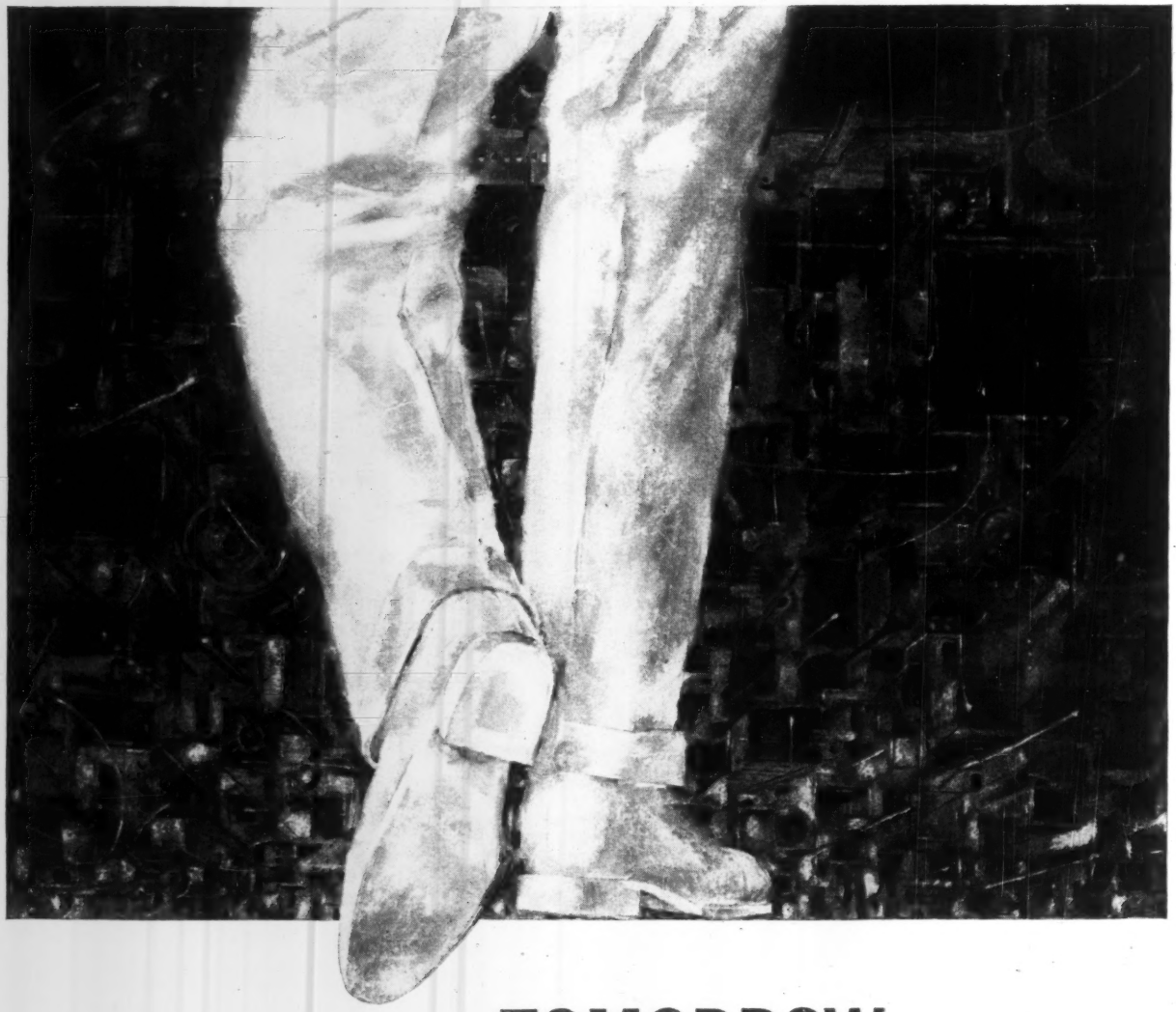
Inventories and Sentiment

This latter consideration lends emphasis to the third question in the survey, which said in substance: "Do you think your anticipated year-end inventory level will be too high, too low, or about right?"

The answers to this question were highly encouraging. Only 12 per cent of the total sample regarded their expected fourth-quarter closing inventories as too high (12 per cent of the manufacturers, 8 per cent of the wholesalers, and 15 per cent of the retailers). Eighty-three per cent thought that their closing inventories would be "about right," and 5 per cent said, "Too low." These latter percentages were, on the whole, representative of the manufacturing and wholesaling groups and of most retailers, except for department stores, chains, variety stores, and apparel retailers. Of these, 21 per cent believed their year-end inventories would be too high. On the whole, however, the survey indicated little disposition among business firms to do any widespread unloading of inventories early next year.

Supporting this conclusion were the reasons given, in response to a final question, by those who believed their year-end inventories would be too high. While two-thirds of these concerns cited disappointing sales (experienced or expected), the remaining one-third said that their higher inventories would be the result of deliberate policies and plans toward that end. Many of the latter reported that they were buying in increased quantities to obtain higher trade discounts, offer better selections, take advantage of good buys, expand product lines, or for a variety of internal reasons.

—RICHARD SANZO



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The Meaning of the Satellites

OUR ECONOMIC RACE WITH THE SOVIET UNION

HARRY SCHWARTZ

The Soviet success in launching two space satellites—with the promise of more surprises to come—has raised some disturbing questions in the minds of many American business men. How serious is the Soviet economic threat? Are we really losing out to the Russians?

SOVIET RUSSIA'S historic achievement in launching the first artificial earth satellite has already had many consequences far outside the limited realm of scientific inquiry. Within hours after the actual deed, Moscow's first announcement presented the news as "proof" of the superiority of socialism over our own economic and political system. Since then, Soviet prestige has risen because of the launching of *Sputnik II*, and Communist propagandists the world over have benefited mightily. What the Soviet achievements suggest about Soviet capabilities in the field of intercontinental ballistic missiles has shaken American complacency as has nothing else since Pearl Harbor. And the effects are not yet nearly at an end. We can be sure that the consequences of the satellite launchings, and other similar events likely to follow, will continue for a long time to come.

Strange as it may seem, this whole situation appears basically positive to many veteran observers of the Soviet scene here and elsewhere in the free world. For years, many professional students of Russia in the West have been deeply disturbed by the complacency prevalent in high-level U.S. business and government circles about the non-military aspects of the Soviet challenge. Technologically and economically the Soviet Union is a dangerous competitor whom it will require our best efforts to defeat. Yet, at least until the satellite launchings, we have always had plenty of skeptics—capable and intelligent men who found it hard to believe that Soviet competition was anything really to get very excited about.

For a graphic picture of Soviet-American competition in many key economic areas, see the chart on pages 102-103.

If anything, the danger today would seem to be that the pendulum may swing too far the other way. In the past the free world scoffed at the capabilities of Communist rule. All of us had many good laughs over ridiculous Soviet claims that Russians had invented everything in the

world worth inventing, from radio to the bicycle. Western visitors to the Soviet Union looked down disdainfully at the obviously low Russian standard of living and the high prices of Soviet goods. Like our grandfathers before us, many of us thought of Russians as mere ignorant, illiterate peasants. Now the opposite danger exists: we may be tempted to think of every Soviet citizen as an actual or potential Einstein. Plenty of unsophisticated people—of whom the world has many millions—will feel that the sputniks do somehow prove that socialism is superior to free enterprise. The latter possibility is the really menacing non-military threat of the satellites. It merits our closest attention, since the struggle for men's minds is a vital feature of our world today. The stake of American business and business men in this struggle is obvious.

To assess the implications of *Sputniks I* and *II* for American business, therefore, we shall have to look at the real nature of this achievement, at the reasons why Soviet Russia was able to accomplish it first, and at the very real weaknesses of the Soviet and Communist position in the economic and propaganda competition.

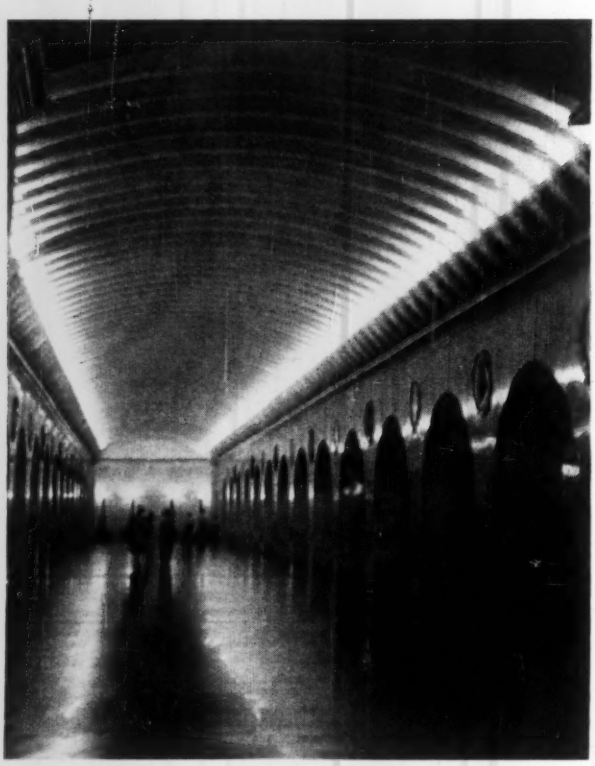
THE AUTHOR • Harry Schwartz, *The New York Times*'s Specialist on Soviet Affairs, is recognized as one of the foremost American authorities on the Soviet Union. He has served the State Department and the Office of Strategic Services as an analyst on Soviet economics, and is a former Professor of Economics at Syracuse University. A native of New York City, he holds the Ph.D. degree from Columbia University. He is the author of *Russia's Soviet Economy* (second edition, 1954, Prentice-Hall, Inc.), and of many other books and articles concerning the Soviet Union.

What Sputniks Don't Prove

The first point to be made about the satellites is that they have no bearing whatever on the question of whether free enterprise or communism is the more desirable system for men to live under. To say this is not to disparage the technical feats involved or to deny in any way the very serious implications of the satellites for our military security. But that is not really the point.

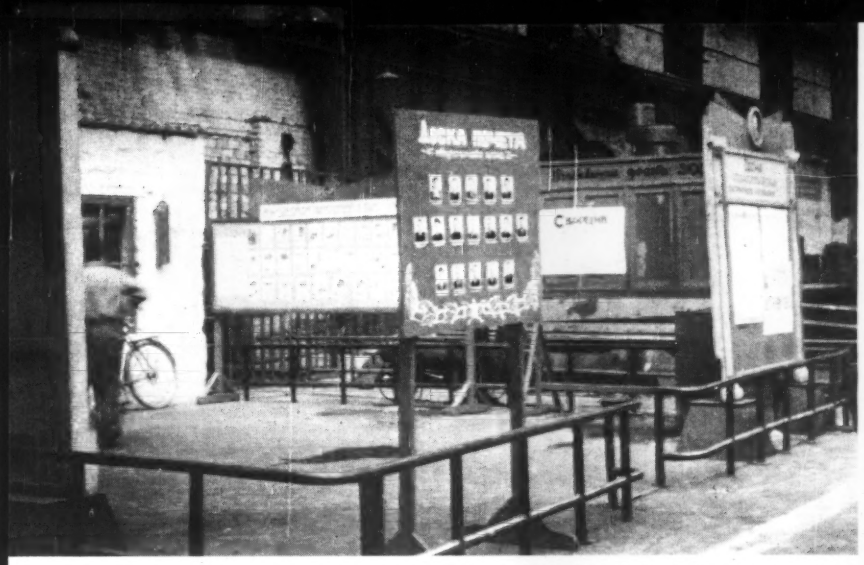
Some years ago, a certain brand of ball-point pens was widely advertised as the pen you could write with under water. However, most people don't write under water—and for a rational consumer that claim was simply irrelevant. So it is with the sputniks. Men create economic systems to meet their wants. And for the overwhelming majority of human beings in this still terribly poverty-stricken world, the basic wants are still food, clothing, shelter, and medical care. Neither the sputniks nor the technical genius in rocketry behind them can feed, clothe, or shelter anyone, nor can they cure a single human ailment. In terms of meeting genuine needs, the Salk polio vaccine was an immeasurably greater contribution to human happiness and well being.

From the point of view of competition between economic systems, therefore, the Soviet earth satellites must be looked upon as historic ad-



Inside the Kremlin? No, in a Leningrad subway station. Here, on the glittering Science Platform, plaques honoring eminent Russian scientists look down on subway passengers. Ironically, there's a serious and continuing housing shortage above ground.

This baby skyscraper, 32 stories high (Moscow's biggest goes up to 34) is part of Moscow's big Lomonosov State University, founded in 1755, which today has more than 22,000 undergraduate and 1,800 graduate students, many preparing for scientific careers.



A familiar sight in most Soviet factories is the bulletin board displaying photos of the workers who have exceeded their production quotas for the preceding month. This "honor board" is in the transformer works at Zaporozhye on the Dnieper River, site of one of the largest hydroelectric plants in the Soviet Union. Board at right is for announcements.

vertising and public relations stunts. However, that is not to say they are unimportant. Presumably many ballpoint pens have been sold because of the glamor of the underwater writing claim, and there is far greater glamor in the idea of a satellite whirling about the earth. Advertising men in Moscow as well as on Madison Avenue have long known that consumers are not necessarily rational, whether the product sold is a bar of soap or a way of life.

Moreover, the competition to send up the first satellite was not between a free enterprise concern and a government organization. It was a contest between two governments, our own and that of the Soviet Union. At most it may be said that the Soviet bureaucracy bested our own because the Russians were more alert to the advantages of being first on the market of public opinion with that remarkable gadget, the earth satellite.

But the satellite achievement does throw some important light on the accomplishments of the 40 years of Communist rule in Russia. The launching of the sputniks would have been far less of a shock to Western public opinion if the real nature of those other accomplishments, evident for many years to informed observers, had been appreciated. The sputniks will have proved more valuable to us than to the Russians if they finally cure us of that most dangerous disease for any competitor: underestimating one's opponent.

A Neck-and-Neck Agency

The basic achievement of the Soviet regime has been to convert that country from the overwhelmingly peasant, weakly developed nation it was in 1917 into a modern industrial power. As Allen Dulles, director of the Central Intelligence Agency, has repeatedly pointed out in recent years, the Soviet Union can now essentially do anything we can do in the fields of industry and technology. At the frontiers of these fields, we are ahead in some areas—and they are ahead in others. The launching of the sputniks underlines the truth of Mr. Dulles' observation. Obviously, only a complex and highly developed modern industrial society—with real competence in a wide range of technological and industrial fields—could have shot up an earth satellite. As a matter of fact, even before *Sputnik I*, Soviet achievements in producing atomic and hydrogen bombs and extremely powerful jet engines had made clear our opponent's capabilities.

This basic achievement has meant a profound transformation in the lives of tens of millions of Soviet citizens. Enormous numbers of peo-

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Latest-model buses and trucks are displayed here in the Heavy Industry Pavilion of Moscow's Industrial and Agricultural Exhibit, a sort of permanent trade fair that serves as a showcase for Soviet products. Posters on wall (right) chart production goals.

Some shopping, others just looking, citizens of Moscow stroll through Russia's biggest retail establishment, the G.U.M. or State-Owned Department Store. Price, but not quality, of goods sold here matches the lavish interior (see fountain in background).

THE URGE TO DECENTRALIZE

LOUIS A. ALLEN

Looking for a quick cure for their organizational ills, many companies have found that a fast dose of decentralization can do more harm than good. For only a well-managed concern can decentralize with success, and then only under certain conditions.

DECENTRALIZATION has been getting favorable notice in the business press for so long that many executives have come to regard it as a mark of progressive—and profitable—management. Inevitably, in many instances disillusionment has followed. More than one company that has seized on decentralization to solve its problems has found itself in a worse predicament than before.

A large multi-product manufacturing company with New York headquarters "decentralized" to its fifteen subsidiaries and found that it had lost control of its operations and profits. Or consider the disillusionment of a Midwest concern with several small plants engaged in processing food specialties. The president decided to decentralize in order to improve plant performance. He had heard that decentralization develops managers and felt that this move would help overcome the company's chronic shortage of managerial talent. Unfortunately, the more authority the president delegated to the plant managers, the more over-all operating efficiencies went down. Development of managers must *precede* decentralization, he discovered—but it does not necessarily *follow* it.

High Price of Error

Yielding to the urge to decentralize can be extremely costly. Small companies as well as large ones have made sizable investments in this area, only to find that the advertised benefits have not been forthcoming.

The president of a highly integrated manufacturing company persuaded his board of directors to approve a heavy capital budget so that the company could undertake a "geographic decentralization" by building new plants and diversifying into several new product lines. The decentralization took three years. Meanwhile, general and administrative expense crept upwards. Sales volume increased, but not enough to offset the higher breakeven point which resulted from higher fixed expenses. At a recent board meeting, the president found himself forced to recommend sale of two of the plants and a return to "centralized" management. What had happened? The company had assumed that dispersion of facilities would automatically result in decentralization of authority. Instead, the physical separation had merely made communication and coordination more difficult and multiplied the president's burdens.

Examination of company experience indicates that when a business runs into trouble in attempting to decentralize, it has usually been led

astray by one or more common fallacies.

First of these is the tendency to regard decentralization as a kind of administrative panacea for companies of any size or stage of growth. Actually, executives are often startled to find the evidence argues against this conclusion. The small, young company, operating under a functional organization, almost invariably does best if it is quite highly centralized.

A little thought will make the reasons clear. A small, new company is almost invariably an extension of the ambitions, dreams, and energies of one or a few outstanding individuals. While it is attempting to establish a niche for itself in the market place, it must battle against established competition. This takes fast, decisive action, maneuverability, and economy of operation, all of which can be best achieved by strong unified direction from the proprietor himself. Even aside from the leadership factor, the organizational structure of the small company tends to impose a high degree of centralization. Almost invariably, small businesses are functionalized. That is to say, all manufacturing is under one manufacturing executive, all sales under one sales head, and so on. These functional heads can make decisions effectively for their own departments. But they have neither the objectivity nor the perspective to make decisions that involve one or more other functions. These can be made in a balanced way only by a centralized authority.

IS YOUR COMPANY REALLY DECENTRALIZED?

Just rearranging its organization chart and labeling the results "decentralization" won't bring a company the rewards that genuine decentralization can often provide. On the other hand, it's possible for a company to be effectively decentralized without ever putting the term in a memorandum. A run-through of the questions below will give you a rough idea of where your company really stands on the centralization-decentralization scale.

- Do you have clearly expressed objectives you are accountable for accomplishing within specified time limits?
- Do you help to set up the corporate objectives and policies that guide your activities?
- Do you program major activities and projects?
- Are the budget limits within which you work broad enough so that you can make final decisions on most programmed activities?
- Do you prepare a report covering your operating performance, with variances highlighted, which becomes a part of the periodic consolidated company report?
- Is your performance as a manager measured in terms of profit standards which you, personnally, accept as valid?
- Can you make final decisions, within budgeted or programmed limitations, on a majority of the twelve key authorities that apply to your work? (See box, page 42.)
- Do you participate in some form of incentive reward—financial or non-financial—that is directly related to your profit performance?
- Do you and each of your subordinate managers have, somewhere in the organization, at least one (preferably two) replacement capable of stepping into your shoes on short notice?
- Do you operate within a divisionalized form of organization structure?

If you couldn't answer "yes" to most of the ten questions above, the chances are your company has some way to go before it will be getting the most from decentralization.

Mistakes and Misapprehensions

There are other sources of confusion. It is often wrongly assumed that decentralization can be attained merely by changing the company's organization structure. For example, a large distributing company with Eastern headquarters changed from a functional to a product-division type of organization, and waited hopefully for the burden on top management to diminish. One president died of a heart attack and another was incapacitated with a peptic ulcer before the company realized that divisionalization does not necessarily bring about decentralization.

Another fallacy is that if a little decentralization is good, a complete job will be that much better. But, as more than one company has discovered, too much decentralization can be as dangerous as too little.

This is well documented in the case of a manufacturing company with $125 million annual sales which, over the course of some fifteen years, acquired a group of subsidiaries and set them up as operating divisions. In its desire to decentralize to the limit, the company permitted each of the divisions to operate pretty much on an autonomous basis. The slack rein proved a mistake. Expensive and wasteful duplication of both facilities and operations occurred. Eight research laboratories existed, each operating independently. In one case, four laboratories undertook a series of intricate experiments in an attempt to discover a needed catalyst; three continued the work from two to seven months after the fourth had found a suitable material. Since the

divisions purchased independently, many relatively small lots of chemicals, bottles, and other materials were acquired at comparatively high prices. Several of the divisions frequently carried abnormally high inventories of similar expensive materials. Marketing problems cropped up. Since warehousing was independent, a customer who bought from two or more divisions might receive his purchases as separate shipments from several warehouses.

The company solved its problem by instituting the necessary centralization. Administrative expense soon dropped, sales improved, and much of the bickering and disagreement that had existed among the divisional managers was gradually eliminated.

It's More Than Dispersion

Decentralization is also commonly confused with geographical dispersion. A few years ago, for instance, a transportation company created groups of engineering, maintenance, purchasing, and accounting personnel to service geographically separated locations. It assumed it was decentralizing in the process, but actually authority for direction of these groups remained with the functional departments at headquarters. The problems of coordination soon became so complex that the company found it simpler to transfer most of the staff back to headquarters.

Much of the confusion can be eliminated if we differentiate clearly between decentralization and divisionalization. The two are closely related, but a company can be divisionalized and not decentralized, and vice versa.

Decentralization is the systematic and consistent delegation of authority to the operating levels of the organization. Absolute decentralization would mean that every person given any work to do would have the power he needed to complete that work and would not be required to check with his superior on any detail. (As a practical matter, of course, the superior must retain certain authority or the operating elements will go their independent ways without common purpose or coordination.)

Divisionalization, on the other hand, is the process of breaking large functional departments into divisions grouped in terms of either product or geography.

In speaking of decentralization, most companies refer to the first step of the process—pushing down authority from the top executives of the company to the next level of operating management—usually the divisional or department managers. And decentralization commonly stops there. The division manager runs his show with a tight grip on the reins. He may recognize that he is functioning better because he has more real authority, but he is unable to realize that his subordinates might be helped in the same way. To the extent that he is strong and capable, he may get away with it. But most companies find that decentralization can and should be a way of life, even at the first-line operating levels of the company.

United Parcel Service, for example, delegates authority right down to the manager of each of its stations. Even where several small stations are located in the same building, the organization is so arranged that each manager can maintain his operation as an autonomous unit.

Food Machinery and Chemical Corporation decentralizes as much authority as possible to operating levels as a matter of policy. Sylvania Electric Products also decentralizes, in large degree, to the plant level.

Why Decentralize?

What prompts a company to decentralize? Study of well over 100 companies that have decentralized since 1907 indicates there are two basic pressures that trigger the move: company growth and diversification. Essentially, decentralization is a systematic and consistent attempt to ease the burden on top management.

As a company grows, it outreaches the span of a single individual. Sooner or later, decentralization must occur if it is not to slow down and lose out in the competitive marketplace. Practically all large companies are proof of this thesis. This was true of Ford Motor Company under Henry Ford, of Du Pont after the death of General Henry du Pont, of Unilever Limited under William Lever, and of many others. If top executives continue to make most of the decisions, sooner or later the proliferating layers of organization impede communication so badly that fast, decisive action at the operating levels is impossible. As a general rule, the broader and more outstanding the talents of the top manager, the longer the company can maintain successful centralization. Sooner or later, however, the break must come.

For example, Paul V. Galvin started Motorola, Inc., in 1928 to manufacture a popular-priced automobile radio. The struggling young company was able to survive only because of strong centralized leadership. Galvin not only supervised his small, talented staff of electronic engineers, but also established the first distributorships, arranged the first advertising campaigns, and kept a weather eye on the bookkeeping.

Leadership was concentrated in one individual. Every decision bore

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YARDSTICKS OF DECENTRALIZATION

How can decentralization be measured? The extent can be gaged with absolute accuracy by measuring the sum of *all* the authorities that are delegated. However, certain key authorities that can readily be expressed in monetary terms form a more practical index. The key authorities are:

1. Approval of purchase commitments
2. Acquisition of expensed equipment
3. Acquisition of capital equipment
4. Leasing property or equipment
5. Sale of capital equipment
6. Approval of travel expense
7. Approval of donations or gifts
8. Approval of sales prices
9. Approval of price quotations
10. Approval of credit
11. Authority to hire subordinates
12. Approval of wage and salary increases.

It bears emphasizing that *complete* authority for carrying out these responsibilities can never be delegated safely. There must always be a balancing centralization.

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PICKING BETTER MEN FOR YOUR SALES TEAM

MILTON M. MANDELL, *Chief,*
Management Testing Unit, U.S. Civil Service Commission

"Why can't we get good salesmen any more?" That's a question plenty of baffled sales managers—and their bosses—are asking these days. In many cases the answer is surprisingly simple: "Because you don't know how to spot them."

"THERE ARE thousands of salesmen in this country today who are in the problem class. They are making just enough to get by, yet every morning they must literally kick themselves out on the job." So asserts the sales department manager of the Standard Register Company.

Other companies report that they're losing as many as 60 per cent of their new salesmen during the training program—and they complain that many of those who stay can't sell. With the price of sales selection mistakes going sky-high (costs of recruiting, evaluating, training, and breaking-in average more than $6,000 a man, according to one recent survey) it's no surprise that companies are looking for better methods to select salesmen.

One reason the problem is such a tough one is that, among many people who might make good salesmen, selling as a career doesn't enjoy the prestige it deserves. Because of the shoddy tactics of some salesmen, many people tend to look down on the sales job—forgetting that every profession has its phonies and quacks. Despite the vital importance of selling in our economy, the qualifications it demands—many sales jobs require as much ability as a technician's or executive's—and the rewards it offers, many young men who are influenced in their choice of a career by what their family, friends, and neighbors think still stay away from sales work. The insurance companies have made a notable effort to improve this situation by a series of advertisements in national magazines, and there are other signs that the salesman is gaining respect and recognition. Meanwhile, one partial answer that is available to some companies is not to hire directly for the sales job, but to transfer and promote other employees to sales positions.

Arbitrary requirements and the personal predilections of sales executives are another serious stumbling-block to successful sales recruiting. One company insisted, for example, that its college recruits have a certain number of credits in a particular subject. Investigation later showed that this requirement had no bearing on successful salesmanship. Another national company advised its dealers not to hire any applicant who had been unemployed for more than six weeks. Although this rule *might* have been valid on a national basis at the time, it certainly seems questionable whether it would hold good permanently in all cases, regardless of circumstances or local employment conditions.

Some companies want all their sales applicants to exhibit supervisory potential, while others stress record-keeping ability. Yet in many fields the typical good salesman may be a poor bet as a supervisor or record keeper. Many promising sales recruits are being screened out by requirements like these. Add to them the men rejected on such grounds as height, weight, choice of necktie, and color of hair or eyes, it seems likely that as many good bets are being rejected as hired.

Why is it, then, that so many bad bets do get hired? One cause, undoubtedly a common one, is pinpointed in the Ray-O-Vac Company's guide to its district sales executives. Warns Ray-O-Vac: "Don't hire the best of the worst. If you don't find a good man, start all over again. In the long run it's much better and less costly to have the territory open a while longer than to hire a man in whom you do not have complete confidence."

Another reason is that sales personnel—and this includes many sales supervisors—are notoriously bad pickers. In judging an applicant they are often influenced by one favorable point and neglect other, equally important, negative factors. They fall for a good story. In short, they are intuitive rather than analytical. This is why many companies require tests, reference checks, and home office approval before a new salesman is hired. These precautions, unfortunately, can't retrieve the good applicant who was dismissed after the first interview.

Stability vs. Sales

To reduce costly turnover, some companies maintain extensive training programs and put emphasis on salary rather than commissions. Concentrating on low turnover, however, may result in a sales force that is low in selling ability. Perhaps companies that can't afford high turnover could take a middle way—still emphasizing sales ability, but providing bonus and fringe benefits tied to length of service.

Refusal to use systematic selection devices is another reason why many companies have bad luck with their sales recruits. A friend's recommendation and a brief interview is no basis for an intelligent hiring decision. Granted, there are no perfect tests for sales selection. Granted, there are no infallible methods for interviewing and checking references. But some methods *are* better than others—and these methods can be made still more reliable when they are carefully adapted to the special circumstances and needs of individual companies.

What makes a good salesman? What qualifications are really essential in sales work? One way of approaching an answer is to look at the reasons why salesmen fail. A research study by the American Management Association showed two prime reasons for failure. They were ranked first by half of the 143 companies responding: "Poor planning and organization of time and effort" and "lack of effort, ambition, aggressiveness, stamina, motivation, and so on." Again, a recent research study by Professor Bernard Bass indicated that among the weaknesses that distinguished low from high performers among salesmen of grocery products were: (1) failure to follow through on sales; (2) inability to handle different types of customers; (3) bad judgment in sizing people up; and (4) failure to keep products competitively priced. These and other studies suggest that good salesmen should possess the following positive characteristics:

- Good health and physical vigor
- Sufficient intelligence to deal with the type of buyers he will encounter
- Industriousness, perseverance, and desire for money and success
- Liking for people and ability to get along with all types
- Self-reliance and initiative; ability to work without close supervision
- Emotional stability and maturity
- Fluency in speaking (not garrulity)

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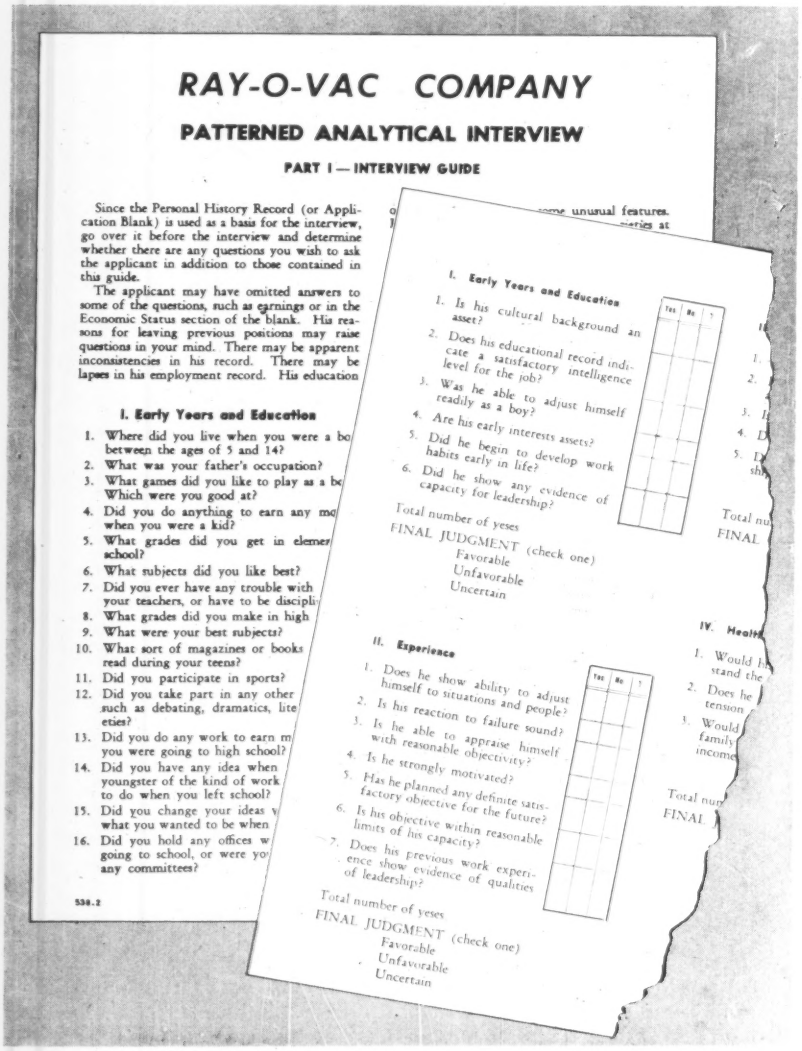

RAY-O-VAC COMPANY

PATTERNED ANALYTICAL INTERVIEW

PART I — INTERVIEW GUIDE

Since the Personal History Record (or Application Blank) is used as a basis for the interview, go over it before the interview and determine whether there are any questions you wish to ask the applicant in addition to those contained in this guide.

The applicant may have omitted answers to some of the questions, such as earnings or in the Economic Status section of the blank. His reasons for leaving previous positions may raise questions in your mind. There may be apparent inconsistencies in his record. There may be lapses in his employment record. His education

I. Early Years and Education

1. Where did you live when you were a bo between the ages of 5 and 14?
2. What was your father's occupation?
3. What games did you like to play as a bo Which were you good at?
4. Did you do anything to earn any mo when you were a kid?
5. What grades did you get in elemen school?
6. What subjects did you like best?
7. Did you ever have any trouble with your teachers, or have to be disciplin
8. What grades did you make in high
9. What were your best subjects?
10. What sort of magazines or books read during your teens?
11. Did you participate in sports?
12. Did you take part in any other such as debating, dramatics, lite eties?
13. Did you do any work to earn m you were going to high school?
14. Did you have any idea when youngster of the kind of work to do when you left school?
15. Did you change your ideas w what you wanted to be when
16. Did you hold any offices w going to school, or were yo any committees?

538.2

I. Early Years and Education

1. Is his cultural background an asset?
2. Does his educational record indicate a satisfactory intelligence level for the job?
3. Was he able to adjust himself readily as a boy?
4. Are his early interests assets?
5. Did he begin to develop work habits early in life?
6. Did he show any evidence of capacity for leadership?

Total number of yeses

FINAL JUDGMENT (check one)
Favorable
Unfavorable
Uncertain

II. Experience

1. Does he show ability to adjust himself to situations and people?
2. Is his reaction to failure sound?
3. Is he able to appraise himself with reasonable objectivity?
4. Is he strongly motivated?
5. Has he planned any definite satisfactory objective for the future?
6. Is his objective within reasonable limits of his capacity?
7. Does his previous work experience show evidence of qualities of leadership?

Total number of yeses

FINAL JUDGMENT (check one)
Favorable
Unfavorable
Uncertain

One way to improve the effectiveness of interviewing as a selection technique, many experts believe, is the "structure" the interview—that is, make use of a carefully designed, tested pattern of questions to get the relevant information. Shown here are sections of a two-part interview guide used by the Ray-O-Vac Company, Madison, Wis., in salesmen selection. Left, some of the questions. Right, part of the interviewer's final evaluation form.

WHEN BUSINESS PLAYS SANTA CLAUS

THIS MONTH, when business again faces the perennial Christmas gift problem, it must decide whether to play Scrooge or Santa Claus—or unseeing ostrich. If the question were merely one of dollar expenditures vs. tax advantages, it might be simpler. But it also takes in such imponderables as tradition, practice, ethics, and the attitudes and feelings of employees, customers, and suppliers—in short, the same problems that plague business all year round.

Business giving at Christmas has become big business. No one can know for sure how much companies will spend this year on gifts. Estimates range all the way from $300 million to a whopping $2 billion. But the Advertising Specialty National Association puts the current range between $750 million and $1 billion (ten to fifteen times what Americans are expected to spend on stamps for this year's Christmas cards). Some of these figures may include gifts by companies to their own employees, a problem to which different considerations and policies apply.

"It's become a monster."

Whatever the actual total gift bill, more companies plan to give this year than ever before, according to the latest survey by *Sales Management* magazine, which reports that 85 per cent of the 838 companies responding are planning some gift-giving, compared to 15 per cent who ban the practice. This proportion of givers set the highest mark in six years. With the exception of 1954, when business givers—possibly as a result of recession cutbacks—dropped to 62 per cent, giving has been on the upgrade for the past six years. The same survey also reveals that four out of ten companies plan to give more this year; four others, about the same; and the remaining 20 per cent, less than in 1956.

While there will be more giving and more gifts, there are strong indications that perhaps 80 per cent of those who give don't really believe that Santa Claus should have a place in business. One company spokesman told DR&MI, in an informal opinion poll of national industrial companies, "It's become a monster." More typical, however, was the comment of E. W. Ranson, agricultural chemicals sales manager of Allied Chemical's International Division: "In certain exceptional situations, it has proved extremely worth while in developing good will. But in general, I don't believe it is a good practice."

T. J. Watson, Jr., president of International Business Machines Corp., puts his views this way: "Like almost everyone else in business, we believe that Christmas gifts in the spirit of Christmas are wonderful things and should be encouraged, but such gifts in the spirit of business have no place whatever in today's business world. Admittedly, the line dividing these two types of gifts is extremely difficult to draw at times. However, in our Company we feel that the embarrassment caused IBM'ers, particularly in the purchasing area of the business, by turning down gifts from outsiders is less than the embarrassment arising from accepting them with the implications they carry."

Says C. H. Percy, president of Bell & Howell Company: "We have not made a practice of giving gifts to our customers. Our products are sold on the basis of value, performance, and quality. Our industry, like all others, is very competitive and we will always accept the challenge to attain and maintain our position by offering a product which will earn its position without special personal inducements."

Another top executive, Lloyd M. Powell, president of Dictaphone Corporation, says: "Those with whom we do business are requested not to offer gifts of tangible value to employees of Dictaphone Corporation's staff. While we appreciate the generosity and friendliness so frequently connected with such presents, it is difficult to accept them without some sense of obligation. We feel certain our friends who supply us will understand our position, and that it would involve embarrassment to refuse proffered gifts."

Many companies, especially among the larger, have questioned whether seasonal business giving is a valid way of promoting good will. Such companies as the General Radio Company of Cambridge, Mass. and the Hamilton Manufacturing Company of Two Rivers, Wis., will again send out letters to suppliers this year announcing a no giving and no receiving policy.

"A couple of bottles of liquor are O.K. A Cadillac's another thing."

The Ford Motor Company has recently distributed to suppliers a booklet entitled *Partners in Progress*, which contains this purchasing policy statement: "In keeping with the objectives of impartiality and fairness, suppliers should be requested to refrain from providing gifts, entertainment, and favors to company employees who are instructed not to accept such offers." This statement reflects Ford's over-all policy that "no Company employee may accept, directly or indirectly, a gratuity, favor, gift, loan, preferential treatment or any other thing of significant value" from those with whom Ford does business.

One purchasing director of a large

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WHAT'S BEHIND THE RISE IN BUSINESS FAILURES?

Devaney Photograph

When business failures mount, eager politicians outdo each other in diagnosing and prescribing for what ails the economy. The economy, meanwhile, may very well be in excellent health.

RICHARD SANZO

As the most prolonged and phenomenal business boom in history pauses for a "breather," a bothersome question recurs: Why have commercial failures been rising all this year? With economic conditions as favorable as they have been, we might expect an ever-declining rate of business failures. Yet the fact is that commercial failures have been increasing steadily—in number, in amount of liabilities at the time of failure, and in rate per number of concerns engaged in business.

The number of failures averaged 270 a week during the first nine months of 1957, and the total for the first nine months was 10,364. For the corresponding period of 1956, the total was only 9,547. At the present rate, failures for 1957 as a whole may approach or even exceed the level of 14,768 that was reached in the year 1939.

This is no isolated trend, for the rise in the number of failures has been continuous since 1951. Within the past five years, commercial failures have increased by more than 44 per cent among manufacturers, 60 per cent among wholesalers, 65 per cent among retailers, 120 per cent in construction, and 66 per cent in service industries.

Dollar liabilities at the time of failure were 11 per cent higher in the first nine months of 1957 than in the corresponding period of 1956, and in 1956 they were nearly 240 per cent larger than in 1940.

TABLE I

FAILURE TRENDS

1920 - 1957

Year	Number of Failures	Total Failure Liabilities	Failure rate Per 10,000 Listed Concerns
1920....	8,881	$295,121,000	48
1923....	18,718	593,387,000	93
1926....	21,773	409,233,000	101
1929....	22,909	483,252,000	104
1932....	31,822	928,313,000	154
1935....	12,244	310,580,000	62
1938....	12,836	246,505,000	61
1941....	11,848	136,104,000	55
1944....	1,222	31,660,000	7
1947....	3,474	204,612,000	14
1950....	9,162	248,283,000	34
1951....	8,058	259,547,000	31
1952....	7,611	283,314,000	29
1953....	8,862	394,153,000	33
1954....	11,086	462,628,000	42
1955....	10,969	449,380,000	42
1956....	12,686	562,697,000	48
1957*...	10,364	469,641,000	52

* First nine months

As for rate of failures, during the first nine months of 1957 concerns failed at the rate of 51.9 for every 10,000 businesses listed in the DUN & BRADSTREET *Reference Book*. This was the highest toll since 1941, when businesses were failing at the rate of 55 for each 10,000 listed in the *Reference Book*.

These figures cover, of course, only cases that involved loss to creditors. They do not include businesses that liquidated voluntarily and paid whatever obligations were outstanding at the time they closed their doors.

Such voluntary liquidations occur with great frequency. The figure for the total number of businesses (4.2 million) is comparatively stable, but below the surface there is considerable turbulence. Some 350,000 to 400,000 firms are discontinued every year, only to be replaced by an equal or slightly larger number. Some of those that are discontinued after paying all debts represent sizable losses to the people who put up the money, and certainly cannot be considered successes, but they are not included in failure statistics.

How shall we view the anomaly of rising failures and prosperity? How, especially, shall we account for increased number of failures in the light of the trend in wholesale prices?

Richard Sanzo is staff analyst for Dun & Bradstreet, Inc.

Normally, failures decline sharply as the level of wholesale prices rises—because goods are in heavy demand and marginal concerns realize unanticipated profit from inventory appreciation. In the past eighteen months wholesale prices have been rising.

Do rising failures suggest misgivings about the credit and financial structure of the country? For those who would view with alarm, let it be emphasized that the present failure rate per 10,000 concerns listed is less than half the rate in 1929, and one-third the rate in 1932. Failure liabilities in 1956, moreover, represented only 0.12 per cent of the $456 billion manufacturing and wholesale sales.

At the same time, it would be rash to underplay the importance of the fact that, while dollar sales of manufacturers and wholesalers were increasing by 18 per cent between 1952 and 1956, the rate of failures per 10,000 listed concerns and failure liabilities both went up 65 per cent.

For some, these figures have a certain fatal fascination, leading to temptations to ascribe to the trend in failures implications that are highly speculative and difficult to support. Some observers, for instance, suppose that an increase in failure liabilities is a forerunner of business recession. Now it is true that over a long period of years, increases in failure liabilities did precede downturns in the business cycle. And, at some future time, we may look back on the current increases in liabilities, and agree that they were, after all, a lead indicator. At the moment, however, when we look back on the year-by-year increase that has occurred in failure debts since 1950, we must agree that any downturn in the economy has been a long time coming.

During this span, there has been a tendency among some commentators to attribute failures to "soft spots" in the economy. "Soft spots" have come and gone, and returned again, but this cause and effect reasoning has not been documented. Analysis of individual businesses that have failed reveals no convincing evidence that rising failures are exclusively the result of momentary ups and downs in business activity.

There is also an occasional tendency to attribute rising failures to the so called "squeeze" on small business. Perhaps this is a matter of reasoning by association—that is, more small businesses fail than big businesses; therefore the squeeze. There are small businesses that have endeavored unsuccessfully to compete with larger concerns, but there is hardly any convincing evidence that failures result from a "squeeze."

Consider these facts: Half of all commercial failures in 1956 were among retailers, 65 per cent of the retailers who failed were in soft goods, and the soft goods industries are composed predominantly of small firms all the way up the line. This is particularly true in the apparel trades, where the highest rates of business mortality occurred. Further, one of the lowest failure rates is in food retailing, where size concentration among the chains is heavy. Only 26 groceries failed out of 10,000 concerns listed.

In like manner, it is difficult to make a case for such factors as "tight money" or lack of capital as important causes of failure. Here and there, failures occur among small concerns which borrowed money heavily at the start and were unable to repay or renew loans. By and large, however, failures result from lack of know-how, not from lack of capital.

continued on page 90

TABLE II

DISTRIBUTION OF BUSINESS FAILURES

BY SIZE OF LIABILITIES

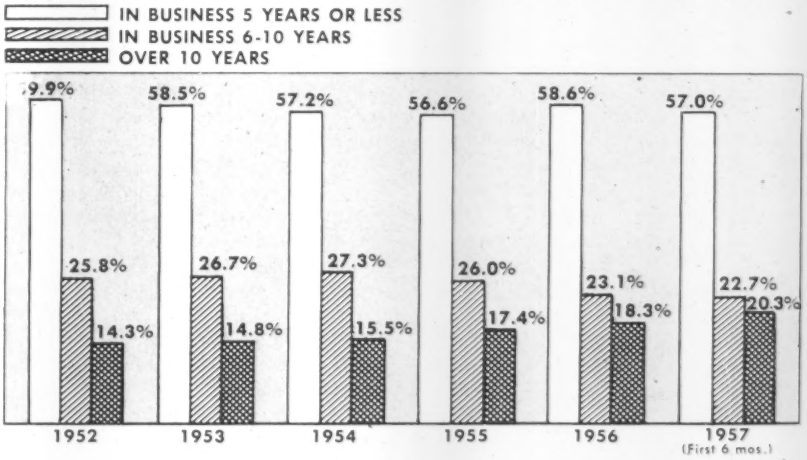
1934 - 1957

Year	Under $5,000 No.	Under $5,000 %	$ 5,000 $25,000 No.	$ 5,000 $25,000 %	$ 25,000 $100,000 No.	$ 25,000 $100,000 %	$100,000 $1 million No.	$100,000 $1 million %	Over $1 million No.	Over $1 million %
1934.....	4,610	38.1	5,340	44.2	1,471	12.2	815	5.1	55	0.4
1937.....	3,866	40.8	4,349	45.8	988	10.4	266	2.8	21	0.2
1940.....	6,891	50.6	5,442	40.0	1,067	7.8	209	1.5	10	0.1
1943.....	1,614	50.1	1,272	39.5	269	8.3	61	1.9	5	0.2
1946.....	263	23.3	488	43.2	252	22.3	119	10.6	7	0.6
1949.....	1,915	20.7	4,646	50.3	2,147	23.2	520	5.6	18	0.2
1952.....	1,428	18.8	3,884	51.0	1,769	23.3	512	6.7	18	0.2
1953.....	1,383	15.6	4,317	48.7	2,375	26.8	748	8.5	39	0.4
1954.....	1,640	14.8	5,640	50.9	2,946	26.5	829	7.5	31	0.3
1955.....	1,785	16.3	5,412	49.3	2,916	26.6	820	7.5	36	0.3
1956.....	2,032	16.0	6,152	48.4	3,431	27.1	1,022	8.1	49	0.4
1957*.....	1,531	14.8	5,083	49.0	2,831	27.3	883	8.5	36	0.4

* First nine months

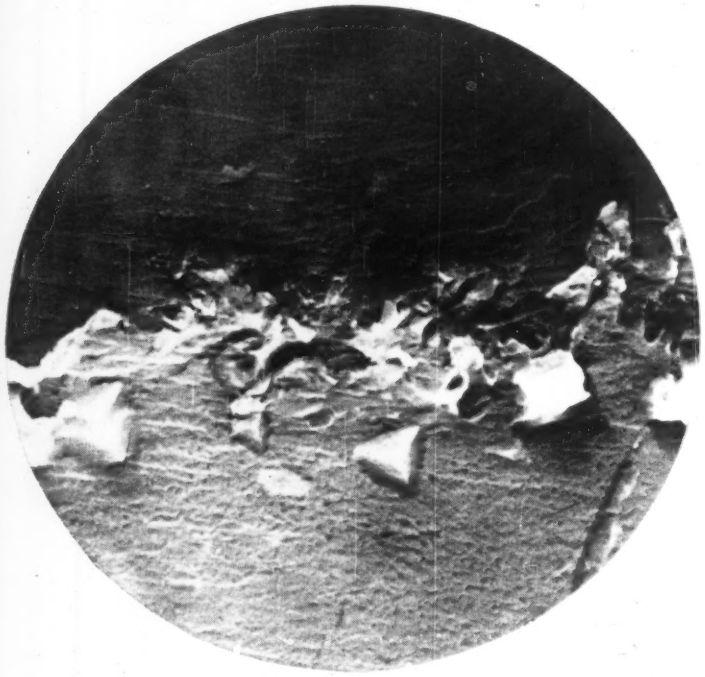
FIRST FIVE YEARS ARE THE HARDEST

TREND IN AGE OF BUSINESS FAILURES EXPRESSED AS A PER CENT OF TOTAL ANNUAL FAILURES



COATINGS ARE EVERYBODY'S BUSINESS

By taking advantage of new developments in the rapidly changing field of coatings, many concerns have added handsomely to their profits at amazingly little cost. Here's a compendium of valuable hints on better coatings for better products and better maintenance.



MELVIN MANDELL, *Industrial Editor*

IF YOU'RE STILL applying the same old coatings in the same old way to your products and packages or for office, factory and vehicle maintenance, it's time to stop and take a searching look at the situation through your economic spyglass. Coatings are changing fast.

There's good reason why manufacturers are going after new coating markets with a vengeance and scrambling to meet the demand for new coatings. The coating and coating machine market is tremendous and well worth invading, as these figures show:

- Over 3 million tons of paint, 400,000 tons of zinc, 200,000 tons of lead, 4,000 tons of tin, and large amounts of ceramics, aluminum, chromium, nickel, copper, plastics, metallic oxides, glass, and a legion of other materials are used annually for protective coatings.
- Close to 2 million tons of paper are coated annually, and more than 1,000 different coatings are used for it.
- Per capita consumption of cans (each one has an inner and outer coating) has grown from 170 in 1946 to 247 in 1956.

The past few years have seen a tremendous growth in coating applications of all kinds. To cite one obvious example, TV picture tubes, cathode ray tubes, and fluorescent lamps all require inner coatings of phosphors. And a revolution in lighting will take place when electroluminescent panels with phosphor coatings become economically feasible.

Porcelain and anodized aluminum coatings for curtain walls of office buildings are currently gaining acceptance. Another growing market for coatings is in photo-printed circuits, themselves a coating requiring additional coatings in their fabrication. Again, the active element in many resistors and capacitors is a coating. Coating techniques made the tiny dry cells used in transistor radios and the new hearing aids practicable. The carbon electrode is actually coated on the zinc electrode. Coatings are essential as insulation in the electrical industry. (The use of silicone resins to coat the armature windings in electric motors has raised operating temperature so much that a considerable increase in output is possible without increasing size.)

Magnetic tapes, photographic film, and many new duplicating techniques depend on coatings. Photographic lenses are now coated with a fluoride compound to reduce diffraction.

Hardly a week goes by that some manufacturer doesn't announce a new coating material (see "Inside Industry," page 99). A substantial amount of research and development is also going into new coating methods. Usually the new coating method represents an economic advance (it is either faster or more mechanized than previous methods, or uses less of the coating material), but in many instances it also produces a better coating. At the same time, many manufacturers are switching to materials, such as plastics or aluminum, that may not require a coating at all (the latter, like chromium, generates its own hard oxide coating).

Why Use a Coating?

The basic reason for the importance of coatings is a very simple one: A single material rarely has all the properties necessary to do a job—or, if it does, it costs too much. Carbon steel, for example, is an easily fabricated, inexpensive structural material, but it corrodes. Tungsten is easily formed into thin wire for use as vacuum-tube heaters, but it is in-

efficient as a source of electrons. Certain oxides are excellent generators of electrons when heated, but can't be formed into strong wires. When the oxides are coated on a metal plate wrapped around a tungsten wire filament, the result is the efficient electron source used in billions of vacuum tubes.

Another purpose of coatings is what S. W. Bradstreet of Armour Research Foundation calls their "synergistic" function—enhancing some inherent property of the base material as well as performing some function for the base material which it can't handle or handles poorly alone. Examples of synergistic functions are added strength, fatigue-resistance, resistance to high temperature or thermal shock, or better aging properties. For example, a porcelain-coated muffler is stronger and more fatigue-resistant than an uncoated muffler. A waxed paper container is not only watertight, it is also stronger.

Researchers use micrographs (10,000 magnification) like this one showing the bond between enamel (top) and steel to improve coatings, base preparation, and application. Photo was made with an RCA electron microscope.

Coatings can add more than one property to a material. For example, just a few months ago, Breinig Brothers, Inc., of Hoboken, N.J., introduced a hygienic vinyl plastic paint containing an ingredient that keeps walls germ-free. Chemicals can also be included in paints to indicate dangerous overheating—or show that overheating has taken place in the past. At the Esso refineries, a paint that changes color from blue to white at 580° F is used on four reactors. And there's a new plastic coating that not only protects, but also eliminates static electricity.

In many instances a coating that doesn't seem economic turns out to be a bargain when secondary or synergistic functions are evaluated. (For possibilities of improving present coatings by adding secondary functions, consider the listing of coating functions on page 50.)

Point-of-Sale Appeal

A good part of the pressure for new coatings comes from demands for new packaging materials (see September 1957, DR&MI, page 59). Many food products that were never packaged before are now sold in transparent wrappings. Frequently these wrappings are coated, so that the package is stronger or more watertight or takes and holds printing and color better.

Many consumer products are presenting a brighter, more colorful face to the customer through dramatic use of coatings. Tough Mylar film, vacuum-metallized on the inner surface to resemble gold or chrome plating, is appearing in big strips on cars and major appliances. Industrial packaging is now rivaling consumer packaging in color, product identification, and convenience. Outside coatings are increasingly being selected for their ability to take color and printing. At the same time, demands on the inner coatings of industrial containers are rising. As new industrial products—especially chemicals—multiply, new, universally inert inner coatings are needed.

Metals for High Temperatures

Another factor contributing to the interest in coatings is the demand for materials that remain strong at high temperatures. For example, the military is looking for a paint that will withstand heat at 1,000° to 1,700° F and the great frictional stresses of high-speed flight.

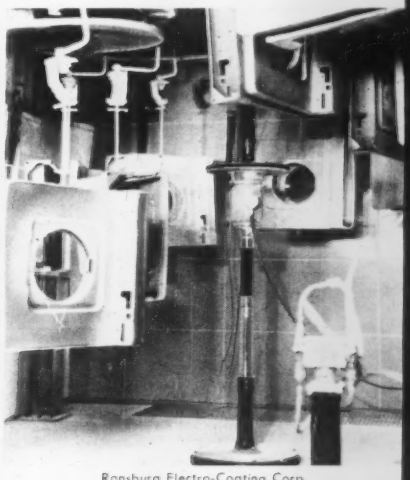
A number of little-used metals, such as molybdenum and niobium, are very strong at temperatures far beyond the melting point of steel, but they react with air. The only solution is to coat them. Most of the interest in these metals comes from the missile makers, but if the coated metals can hold together in satellites traveling 18,000 mph, they can also stand up in the higher-temperature, higher-pressure chemical reactors of

Advances in Application

Although the brush is still needed for many paint jobs, the trend in all coating fabrication is toward mechanized (center) and eventually completely automated operations like the continuous electrostatic spraying system shown at the right, which is not only cheaper but uses less paint as well. Production is 3,000 units a day.

Rust-Oleum Corp.

Worcester Pressed Steel Co.



Ransburg Electro-Coating Corp.

JOBS THAT COATINGS CAN DO

(Some of these functions are incompatible and would not be combined in the same coating.)

Protection

- prevent corrosion or oxidation of base
- prevent base from contaminating contents
- resist fungus, bacteria, barnacles
- reduce wear or abrasion
- retard fire
- resist soiling
- repel water or moisture
- reduce deteriorating ultraviolet
- preserve materials in temporary storage

Decoration

- increase luster
- take and hold printing
- take and hold color
- permit color coding

Fabrication

- increase strength
- save material or weight
- aid in sealing
- prevent adhesion
- accomplish adhesion

Maintenance

- lubricate
- indicate temperature and/or temperature history

Miscellaneous

- reflect heat or light
- insulate heat or electricity
- conduct heat, electricity, or microwaves
- generate heat, electricity, electrons, or light
- reduce static electricity
- reduce diffraction

the future or in industrial gas turbines.

It is possible that many materials not now used for high-temperature application could become economical if suitable coatings could be developed. For example, the high-temperature performance of aluminum has been raised experimentally by Gulton Industries by the application of ceramic coatings.

New Coating Methods

Methods of application have an important bearing on the selection of a coating. Many manufacturers switch from one coating to another because of improvements in application techniques.

Although one major coating method, electroplating, has lost out in some cases to other techniques, it is advancing rapidly on new fronts. Metals that cannot be plated in the usual water solutions, such as titanium, zirconium, and molybdenum, are now being plated in organic and fused-salt baths. Improvements in technique have made electroplating of other rare metals practicable.

Vacuum metallizing is a post-war development of great promise that is gaining rapidly throughout industry (see picture at right). Competitive with electroplating for decorative purposes because coatings laid down by evaporation in an evacuated chamber don't require buffing or polishing, vacuum metallizing still can't match plating for hard use. If the new thicker coatings work out or if the resin coatings that are essential over the usual five-to-ten-millionths thick metal coating can be made hard enough, vacuum metallizing could vie with electroplating even for such rigorous uses as car bumpers. Vacuum metallizing can also apply coatings to non-metals such as paper, wood, glass, and plastics. And it uses much less coating material.

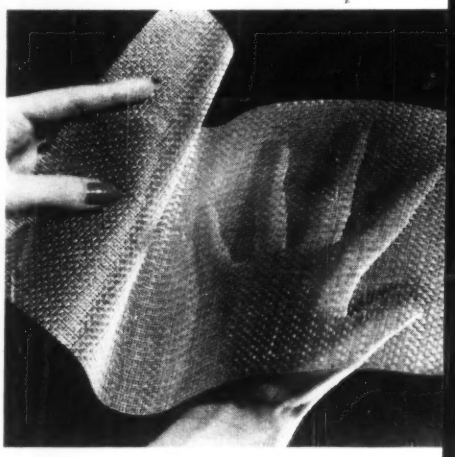
Gas plating, another new technique, does not require a vacuum. Gaseous metals in compound form are deposited on a hot metal surface. Discovered by an English scientist about 70 years ago, gas plating has now been made economic by intensive research efforts.

Chromate conversions are another new metal coating method that eliminates additional expensive steps producing a shiny finish without polishing. Sometimes used as a base coating for organic finishes, they can be fabricated in a variety of colors.

Paint application methods are improving rapidly. In many cases, brushes are giving way to rollers, spraying, and lately, automatic electrostatic spraying. The development of the new fast-drying water-base emulsion polymer (latex) paints makes application cheaper because expensive solvent-removal apparatus is not required. "Hammer" finishes can now be applied by a single spray gun instead of in two steps.

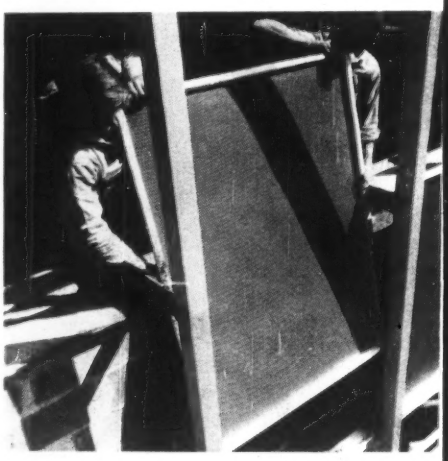
Not only have application methods improved, but new ways of cleaning and priming the base surface and bonding the coating to the base have been developed. Adhesion technology is advancing rapidly under the

continued on page 86



Vacuum metallizing is the coating technique used to produce this fabric-like sheet —actually die-cut, embossed Mylar plated with aluminum by Coating Products, Inc.

Contact areas on this printed circuit are being selectively plated with gold by the Dalic process for improved wear resistance. Worn parts can also be repaired this way.



Workmen installing a section of porcelain enamel-coated stainless steel for the curtain wall of a new office building. Anodized aluminum is also popular for this purpose.

FOURTEEN IMPORTANT RATIOS

IN 36 MANUFACTURING LINES

In times of stiffening competition, it's more important than ever for a company to be in good financial trim. For more than a quarter-century, successful concerns have found Dun & Bradstreet's Fourteen Important Ratios invaluable as a means of checking their own performance against that of their competitors. The Ratios should not be taken as hard-and-fast standards. They do, however, provide a useful and time-tested tool for identifying possible trouble spots.

The Fourteen Important Ratios were first devised by Roy A. Foulke, vice president of Dun & Bradstreet, Inc., and are still being compiled under his direction. Ratios for retailers appeared in our October issue; those for wholesalers, in November.

Line of Business (and Number of Businesses)	Current Assets to Current Debt	Net Profits on Net Sales	Net Profits on Tangible Net Worth	Net Profits on Net Wkg. Cap.	Net Sales to Tangible Net Worth	Net Sales to Net Working Capital	Average Collection Period	Net Sales to Inventory	Fixed Assets to Tangible Net Worth	Current Debt to Tangible Net Worth	Total Debt to Tangible Net Worth	Inventory to Net Working Capital	Current Debt to Inventory	Funded Debts to Net Wkg. Capital
	Times	Per Cent	Per Cent	Per Cent	Times	Times	Days	Times	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
FOR 36 MANUFACTURING LINES—1956—MEDIANS AND QUARTILES														
Airplane Parts and Accessories (37)	2.06	4.68	18.71	29.07	7.13	8.66	42	7.6	26.1	48.5	109.9	80.5	96.4	21.8
	1.59	2.61	14.73	17.37	4.75	6.66	55	4.7	59.2	111.7	160.2	122.9	123.0	57.6
	1.26	1.47	9.65	13.46	2.90	4.81	68	2.6	87.6	202.0	242.0	212.1	153.4	105.4
Automobile Parts and Accessories (72)	3.49	5.40	14.11	26.33	3.80	6.87	30	7.9	30.1	25.6	32.3	63.3	57.9	9.3
	2.54	3.08	8.35	15.18	2.62	4.65	40	5.8	39.9	38.3	52.5	79.2	81.2	22.6
	2.00	0.97	1.89	3.98	2.07	3.65	46	4.5	58.8	52.2	65.1	103.7	107.9	46.6
Bakers (35)	2.50	2.35	14.22	52.01	6.05	23.19	10	35.3	62.3	20.0	37.4	47.9	99.2	26.6
	1.69	1.26	7.09	19.26	5.00	18.49	12	22.7	74.9	33.7	55.4	78.9	169.1	77.6
	1.22	0.24	1.52	3.09	4.14	13.02	19	15.8	92.4	50.8	70.2	131.5	267.9	133.8
Bedsprings and Mattresses (65)	5.02	3.95	12.74	20.00	4.08	6.65	24	11.4	20.3	16.5	36.9	48.1	44.9	13.3
	3.61	2.19	7.06	11.43	3.22	5.30	42	8.0	29.3	27.9	56.0	64.0	66.5	22.1
	2.37	1.54	5.62	7.13	2.23	3.47	58	5.2	40.1	43.4	71.8	85.4	103.0	45.1
Bolts, Screws, Nuts, and Nails (54)	4.44	6.12	13.33	34.14	4.09	8.65	19	10.0	33.3	20.6	37.7	50.6	52.2	21.7
	2.87	3.61	9.35	17.79	3.03	4.71	29	6.4	42.2	28.3	48.0	78.7	75.3	38.4
	1.97	1.51	4.12	6.34	1.82	3.70	36	4.1	65.2	44.5	81.9	110.8	129.3	103.7
Breweries (42)	3.47	4.94	15.51	57.93	2.80	11.69	13	23.7	56.6	14.4	25.3	34.2	110.2	23.6
	2.32	1.32	3.14	10.26	2.35	8.27	23	19.3	66.9	22.2	32.0	50.8	165.7	53.9
	1.56	1.09†	2.36†	16.37†	1.94	6.11	47	12.7	87.8	33.3	58.2	68.6	201.3	103.3
Chemicals, Industrial (68)	3.64	7.98	16.21	39.27	3.46	6.15	32	10.6	31.9	20.6	51.9	44.7	65.2	24.2
	2.50	5.10	12.19	23.78	2.19	4.37	39	7.5	44.8	29.8	66.9	58.9	93.2	57.4
	1.98	3.23	7.35	13.80	1.54	3.27	44	5.2	78.4	57.4	92.6	91.4	163.7	114.2
Coats and Suits, Men's and Boys' (200)	3.50	2.56	10.44	11.11	6.39	6.93	30	7.4	2.9	35.1	63.7	61.3	55.2	8.9
	2.41	1.28	6.77	6.98	4.72	5.48	47	6.0	7.7	62.4	123.9	88.4	81.3	23.5
	1.71	0.63	3.21	3.76	3.61	4.08	63	4.3	17.0	120.3	220.4	135.0	117.7	44.9
Coats and Suits, Women's (76)	2.70	2.63	15.28	18.39	10.33	12.02	24	17.1	4.0	49.9	78.2	41.0	89.2	15.0
	1.92	0.90	4.89	5.78	6.01	7.33	40	8.8	7.4	83.9	121.3	67.5	129.1	24.4
	1.51	0.16	1.37	1.64	4.14	5.16	62	6.9	14.6	143.2	188.4	127.4	193.0	70.9
Confectionery (42)	6.23	3.45	9.18	16.90	3.59	7.21	14	13.1	28.0	12.5	41.0	42.4	34.4	21.2
	3.05	2.05	6.88	10.13	2.92	5.56	22	8.6	40.7	24.6	55.5	70.0	70.4	35.7
	2.02	0.53	3.62	2.79	2.70	3.90	37	5.9	67.0	42.1	75.9	99.3	111.5	68.5
Contractors, Building and Construction (145)	2.33	3.16	15.52	28.47	10.53	17.52			12.9	39.8	64.4			5.5
	1.62	1.61	11.10	16.71	6.79	10.83	**	**	23.5	91.1	132.3	**	**	21.8
	1.35	0.76	4.78	8.78	2.45	6.79			42.1	180.2	235.1			47.4
Contractors, Electrical (55)	3.75	4.58	19.46	27.03	5.72	8.23			7.7	33.0	59.7			7.7
	2.48	2.07	9.63	13.80	4.37	5.36	**	**	16.2	58.1	77.3	**	**	23.6
	1.81	0.83	2.70	3.63	3.24	4.21			24.4	92.6	102.1			44.4
Cotton Cloth Mills (46)	5.64	3.66	6.59	17.13	2.95	5.42	13	5.4	41.7	11.9	26.4	61.7	30.3	19.3
	4.04	2.89	4.88	9.53	1.97	3.33	33	4.6	47.1	18.2	36.6	74.6	39.8	28.3
	2.87	0.89	1.69	4.30	1.38	2.62	46	3.4	59.4	28.3	76.0	103.1	65.7	44.4
Cotton Goods, Converters, Non-Factored (47)	5.93	2.23	7.51	8.29	6.44	6.58	33	11.7	0.4	23.2	100.4	48.6	32.7	12.6
	3.27	1.59	4.69	5.05	3.00	3.19	50	5.7	1.1	46.4	118.4	79.2	57.1	34.8
	1.71	0.23	1.79	1.84	2.14	2.23	59	4.2	2.9	98.6	160.9	96.9	126.2	88.4
Dresses, Rayon, Silk and Acetate (101)	2.76	1.44	15.77	25.04	14.90	19.68	29	29.1	4.5	51.7	.....	32.9	111.1	.....
	1.79	0.61	6.66	9.64	10.97	13.45	35	17.7	8.5	102.4	.....	66.9	185.6	.....
	1.49	0.31	2.28	4.08	6.59	9.48	46	11.3	14.1	179.2	.....	118.2	267.8	.....
Drugs (43)	6.82	11.50	21.12	34.29	2.70	3.92	36	7.2	18.5	13.0	35.4	43.4	34.5	17.4
	3.22	7.30	15.33	25.69	2.07	3.03	45	5.2	37.3	31.4	56.6	71.2	69.2	30.8
	2.32	2.87	9.63	13.37	1.56	2.54	58	4.2	48.6	38.2	82.7	77.1	110.7	50.0
Electrical Parts and Supplies (75)	3.50	6.33	18.53	34.91	3.95	6.72	26	7.6	23.7	27.8	45.0	69.9	48.7	12.0
	2.82	4.49	12.50	18.17	2.98	4.70	39	4.8	34.1	37.4	69.7	83.2	72.8	24.7
	2.10	2.74	9.24	13.32	2.51	3.44	47	3.9	45.6	60.0	91.7	98.5	113.3	46.0

14 important ratios IN 36 MANUFACTURING LINES

Line of Business (and Number of Businesses)	Current Assets to Current Debt	Net Profits on Net Sales	Net Profits on Tangible Net Worth	Net Profits on Net Wkg. Cap.	Net Sales to Tangible Net Worth	Net Sales to Net Working Capital	Average Collection Period	Net Sales to Inventory	Fixed Assets to Tangible Net Worth	Current Debt to Tangible Net Worth	Total Debt to Tangible Net Worth	Inventory to Net Working Capital	Current Debt to Inventory	Funded Debts to Net Wkg. Capital
	Times	Per Cent	Per Cent	Per Cent	Times	Times	Days	Times	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
FOR 36 MANUFACTURING LINES—1956—MEDIANS AND QUARTILES														
Foundries (104)	3.72	6.21	17.68	32.35	3.52	7.75	27	12.5	32.9	22.1	36.6	43.3	63.2	19.2
	2.71	4.77	12.54	21.78	2.76	5.23	33	8.0	47.4	30.8	55.4	64.6	101.0	29.6
	1.92	2.34	8.31	12.75	2.23	3.62	44	4.9	58.7	45.3	80.0	91.5	133.3	62.9
Furniture (146)	4.49	5.79	20.21	27.79	4.36	5.85	31	9.6	18.4	19.5	39.3	43.5	49.1	10.1
	2.94	3.30	10.54	14.12	3.08	4.78	42	6.4	33.0	33.0	68.8	69.4	78.3	24.6
	2.09	1.14	4.52	5.86	2.42	3.10	51	4.1	47.8	58.8	95.1	111.6	109.0	60.9
Hardware and Tools (96)	4.53	6.81	16.97	24.33	3.52	7.24	31	6.8	24.9	19.1	33.9	58.6	38.9	13.7
	3.25	4.95	10.40	16.35	2.30	3.52	38	4.7	35.5	29.1	46.0	80.7	59.0	28.2
	2.29	1.63	3.48	5.13	1.84	2.83	43	3.3	56.5	44.0	77.1	102.2	91.3	47.9
Hosiery (77)	6.92	3.29	7.50	17.38	3.55	7.56	23	7.9	33.2	8.9	26.3	51.0	29.2	17.5
	4.13	1.41	3.07	6.04	2.31	4.95	30	5.3	44.8	15.9	53.9	68.6	48.3	35.6
	1.92	0.40	0.55†	1.03†	1.33	2.84	40	4.0	62.9	42.0	99.5	106.0	94.3	117.6
Machine Shops (162)	3.57	7.42	17.72	38.51	3.17	6.69	28	11.0	31.8	23.1	41.9	46.5	51.2	13.5
	2.60	4.94	12.77	21.72	2.43	4.24	37	5.4	44.5	35.5	64.1	76.8	84.4	34.6
	1.77	2.95	7.58	14.03	1.83	2.93	49	3.7	65.0	51.5	100.7	99.8	158.1	53.0
Machinery, Industrial (389)	3.86	6.44	16.32	24.66	3.85	6.06	34	6.7	24.8	22.2	46.4	57.7	47.6	12.7
	2.78	4.06	11.17	16.78	2.62	3.89	46	4.4	35.1	36.9	68.5	79.5	72.1	22.8
	2.04	2.52	6.63	9.83	2.03	2.86	58	3.3	48.4	60.1	105.0	104.0	109.5	38.2
Meats and Provisions, Packers (72)	2.94	2.36	14.12	33.29	9.86	30.11	9	33.9	46.5	23.3	43.3	49.4	70.4	22.3
	2.23	0.85	8.31	19.92	7.29	15.20	13	23.6	63.1	35.2	65.7	76.4	106.4	43.5
	1.58	0.45	3.62	9.12	5.15	11.69	15	15.0	79.1	63.0	108.4	116.7	149.0	83.7
Metal Stampings (83)	3.90	6.87	16.12	34.67	3.54	7.17	26	8.5	26.1	19.2	52.5	57.7	46.4	25.7
	2.80	3.96	12.59	19.19	2.85	5.59	34	6.3	45.3	32.5	68.3	75.9	67.3	39.9
	2.21	1.43	4.29	7.26	2.01	3.40	43	4.5	59.2	46.5	97.5	99.1	102.0	72.5
Outerwear, Knitted (71)	4.06	4.22	20.86	31.38	7.62	10.68	21	19.7	3.4	25.6	51.1	30.5	63.5	9.3
	2.35	1.25	6.65	8.14	5.81	8.25	26	7.8	13.8	54.8	80.8	76.3	97.5	18.2
	1.68	0.49	3.16	2.55	4.53	5.77	34	4.0	29.1	102.0	202.4	151.4	144.7	37.9
Overalls and Work Clothing (50)	6.15	3.39	11.23	13.36	4.60	6.84	26	5.4	7.8	18.0	39.3	68.2	28.0	5.7
	2.92	1.47	4.78	5.59	3.70	4.28	39	4.3	16.4	39.1	63.0	86.7	54.6	26.1
	2.09	0.19	0.95	0.74	2.36	3.21	49	2.9	26.8	73.0	93.2	134.9	79.9	35.2
Paints, Varnishes and Lacquers (143)	5.24	3.90	10.97	18.08	3.30	6.49	22	8.7	22.3	17.0	29.8	51.5	40.4	11.4
	3.43	2.53	6.83	12.17	2.69	4.53	36	6.7	31.8	25.4	46.1	68.7	68.6	19.1
	2.31	1.13	3.83	5.86	2.26	3.66	44	5.0	46.9	40.8	81.5	83.8	96.7	38.7
Paper (61)	3.15	9.02	14.00	43.80	2.19	5.89	22	9.4	54.1	17.1	34.2	52.8	68.7	22.3
	2.66	6.87	11.46	34.76	1.77	4.77	27	7.2	67.3	23.9	48.4	65.6	95.3	56.2
	2.10	5.96	9.70	24.41	1.22	3.74	33	5.5	90.0	29.8	66.2	86.1	136.8	91.8
Paper Boxes (67)	4.60	6.67	15.92	43.31	3.50	8.93	20	12.0	31.3	14.8	41.9	46.0	56.7	34.9
	2.67	4.18	11.99	20.16	2.72	6.45	24	10.2	50.1	26.1	63.5	68.1	78.1	60.7
	2.01	2.07	6.99	14.63	2.17	4.18	29	7.9	68.8	37.8	99.4	91.6	107.0	115.2
Petroleum, Integrated Operators (37)	2.96	10.18	12.75	57.30	2.02	7.45	30	9.9	64.4	14.4	29.7	49.6	82.9	26.2
	2.35	7.88	11.41	42.04	1.27	5.26	38	8.0	86.2	19.5	50.7	69.9	116.7	66.0
	1.85	4.37	8.91	21.51	1.00	4.39	44	7.3	99.1	30.0	69.2	82.8	151.4	120.2
Printers, Job (63)	2.96	4.94	15.34	50.06	3.77	14.42	31		44.9	23.2	41.7			27.2
	2.17	2.28	8.32	22.87	2.84	7.64	36	‡	62.1	34.5	58.8	‡	‡	56.4
	1.53	1.37	4.15	9.13	2.42	5.40	43		82.8	50.7	93.8			103.0
Shirts, Underwear and Pajamas, Men's (58)	3.42	1.69	9.80	11.33	6.60	9.22	26	8.9	2.6	36.6	52.1	63.7	52.4	8.3
	2.23	0.80	3.93	4.52	4.48	6.05	45	4.6	6.1	70.5	80.5	95.1	75.0	20.4
	1.60	0.07	0.33	0.52	3.53	3.95	57	3.5	14.8	135.9	174.0	144.3	117.8	36.8
Shoes, Men's, Women's, and Children's (104)	3.63	4.03	11.68	14.57	5.35	6.34	22	9.3	11.3	30.9	46.0	54.4	51.5	7.9
	2.62	2.50	7.64	8.34	3.46	4.46	46	4.8	16.2	48.0	68.6	79.8	75.4	19.5
	1.80	0.91	4.45	4.88	2.88	3.28	53	3.8	24.3	80.9	97.1	109.6	136.2	33.3
Steel, Structural Fabricators (Sell on Short Terms) (103)	3.40	6.03	18.34	35.23	5.10	8.30	34	9.7	20.3	27.8	62.1	54.2	64.4	8.1
	2.43	3.99	12.54	20.24	3.24	5.36	49	6.8	32.9	42.2	86.5	77.3	88.5	23.3
	1.85	2.14	8.82	12.95	2.60	3.52	61	4.3	44.7	68.4	127.7	109.2	133.9	82.9
Stoves, Ranges, and Ovens (55)	5.05	2.89	7.86	11.41	3.67	5.83	29	6.3	19.2	16.5	36.4	60.1	36.7	16.1
	3.55	2.00	5.46	8.21	2.81	4.38	41	5.0	31.0	27.6	63.6	82.5	55.8	27.3
	2.51	0.84	1.66	3.37	2.14	3.47	50	4.3	42.3	41.5	86.4	108.1	74.5	43.3
INDUSTRIAL MACHINERY MANUFACTURERS—BY SIZE (TANGIBLE NET WORTH) CLASSES—MEDIANS ONLY														
1956 Under $500,000	2.93	2.88	8.60	15.10	3.40	5.74	40	6.6	31.6	37.1	95.5	74.8	71.6	24.8
1956 $500,000-$2,500,000	2.64	3.68	11.07	18.96	3.02	4.30	45	4.8	34.6	36.9	75.9	79.3	74.8	19.3
1956 Over $2,500,000	2.76	4.97	12.14	17.51	2.35	3.30	50	3.9	36.2	36.2	60.6	81.1	68.8	22.3

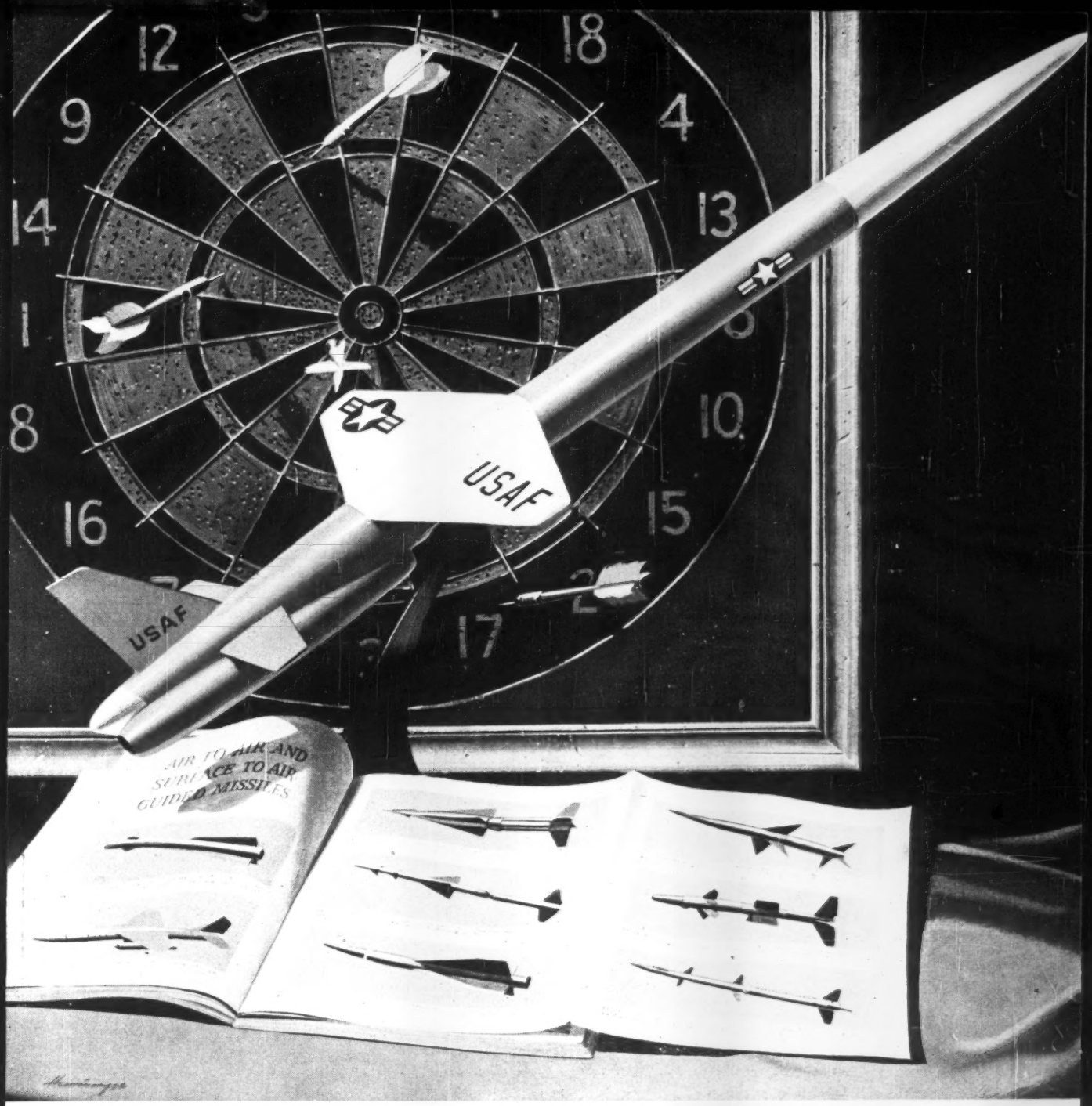
FOOTNOTES

†Loss.

**Building and construction contractors and electrical contractors do not have inventories in the credit sense of the term. They carry only such materials as lumber, bricks, tile, cement, structural steel, and building equipment to complete jobs on which they are working. Electrical contractors carry electrical equipment and supplies to complete particular jobs on which they are working. Concerns operating in these lines generally have no customary selling terms, each contract being a special job for which individual terms are arranged.

‡Job printers do not have inventories in the credit sense of the term. They carry only current supplies such as paper, ink, binding materials, and lead for typesetting.

Definitions of terms will be found on page 56.



SUPERSONIC SCORE KEEPER—Seek-and-kill power of United States air defense weapons of the future will be tested by modern aerial target systems like the supersonic USAF XQ-4 developed by Radioplane Division of Northrop Aircraft, Inc. The XQ-4 can duplicate the performance of a modern high-altitude bomber or missile. Latest of a long series of Radioplane aerial target systems, it tallies up the score of theoretical hits and near misses and is recovered by parachute for repeated use. Today, other Northrop divisions are building the first intercontinental guided missile, the USAF Snark SM-62; the revolutionary supersonic twin-jet USAF T-38, first of an entirely new family of light-weight, low-cost aircraft; and the new low-altitude ground-to-air missile, U.S. Army Hawk, with Raytheon Manufacturing Company. Advanced Northrop engineering and production techniques will continue to lead the aircraft and missile industry in providing low-cost solutions to defense problems.

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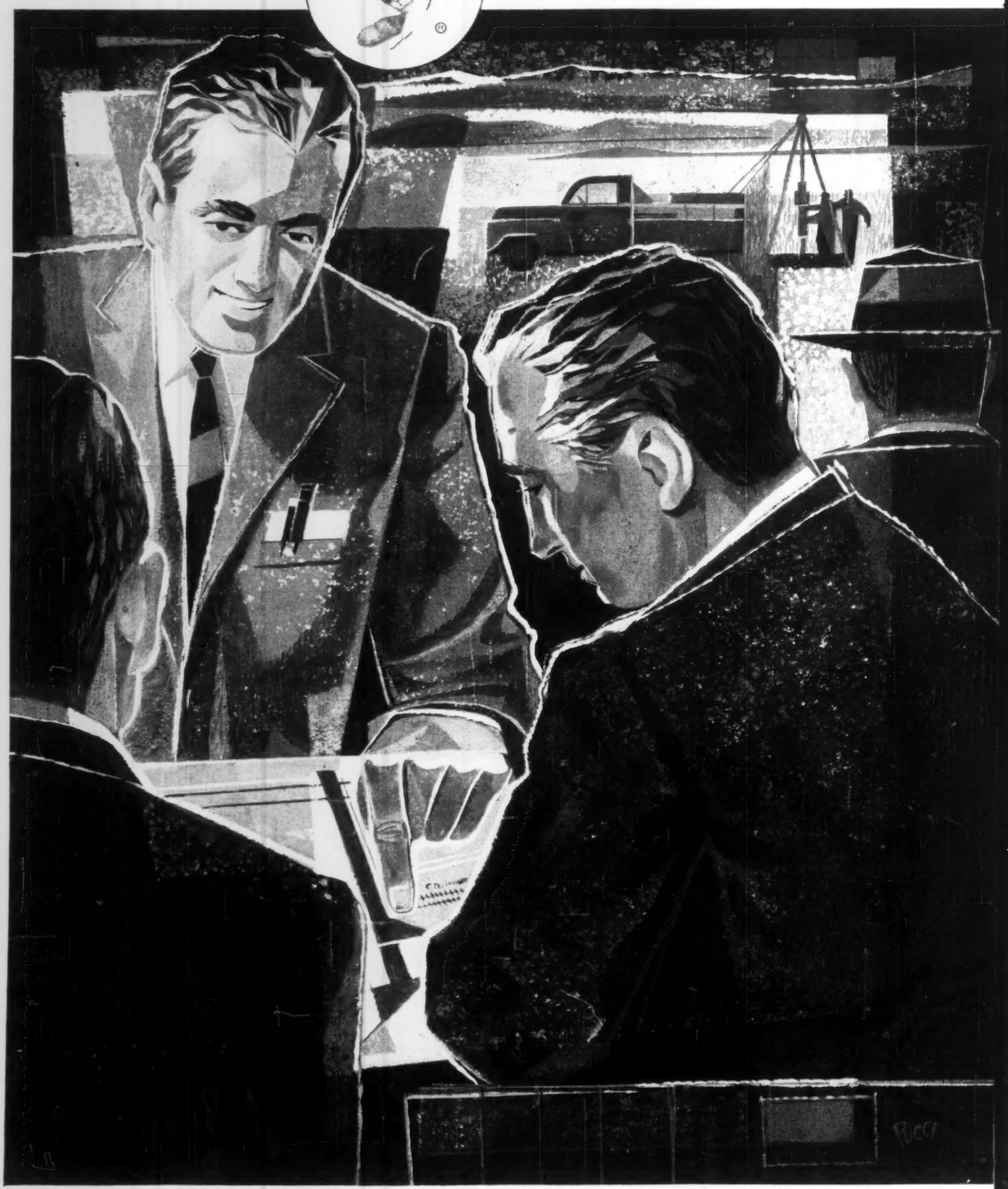
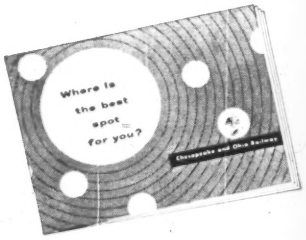


Expert at work

The site selected by a major company for an important branch plant was ideal for the purpose. Suitable water was an obvious requirement before acquisition. It was a Chesapeake and Ohio Industrial Development man, wholly familiar with the tract, who suggested the spot where plenty of good water was found at seventy feet, after earlier drillings were less successful.

A portion of the property was improperly zoned. It was the C&O man who negotiated a zoning change with township officials. They knew him and agreed with his idea that the plant, attractively designed and landscaped, and its payroll and taxes, would be an asset to the community.

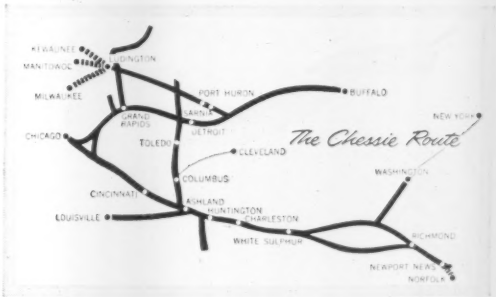
These are examples of how Chesapeake and Ohio's Industrial Development department experts can help. Such matters, possibly troublesome to a buyer on his own, are often best handled by a third party. There's a distinct reason why intricate negotiations are routine to C&O specialists. They know their territory and the people in it, and have their confidence. Call on them for assistance without cost to you when you are looking for an industrial site. Chesapeake and Ohio experts make it easy!

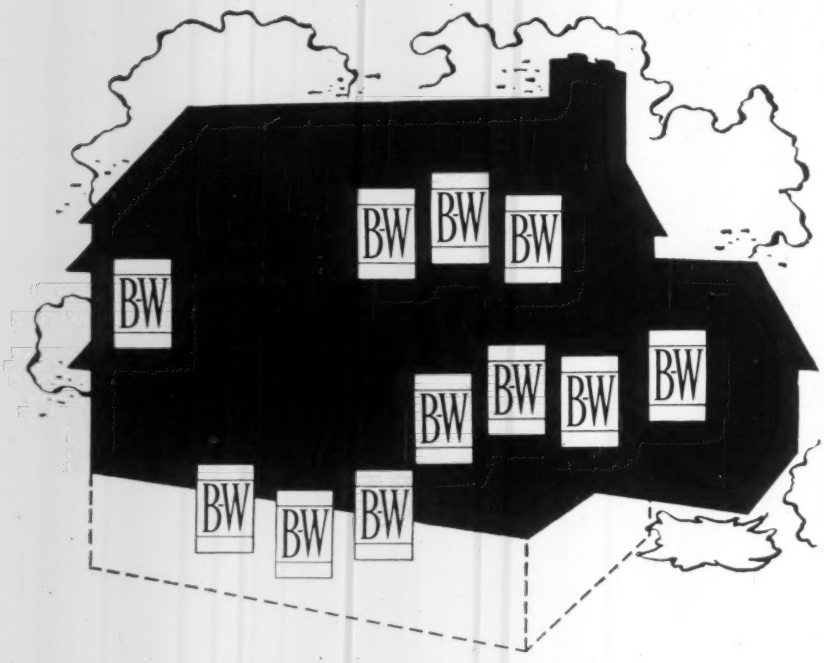


Write for new booklet describing industrial resources and opportunities in C&O territory. Address: Wayne C. Fletcher, Director of Industrial Development, 3203 Terminal Tower, Cleveland 1, Ohio.

Chesapeake and Ohio Railway

SERVING: VIRGINIA • WEST VIRGINIA • KENTUCKY
OHIO • INDIANA • MICHIGAN • SOUTHERN ONTARIO





In home products, too, the Borg-Warner touch is evident

Upstairs, downstairs, all around the house . . . in major equipment for the modern home you see increasing evidence of the Borg-Warner "design it better—make it better" touch.

From B-W's Norge Division come advanced-design washers and dryers, refrigerators and freezers, ranges and water heaters. Ingersoll-Humphryes Division provides porcelain-enameled cast iron and steel bathtubs and lavatories, and vitreous china water closets. Alfol* aluminum foil insulation from B-W's Reflectal, and KoolShade* sunscreen from Ingersoll Products Division, keep homes warmer in winter, cooler in summer. B-W York* heating and air conditioning equipment provides uniform comfort the year 'round.

That home builders and owners like the Borg-Warner touch is evidenced by the fact that sales of B-W products for the home are constantly growing, today account for approximately 35% of total B-W sales.

And that is further evidence of how Borg-Warner keeps growing through its continuing program of carefully planned diversification.

*Reg. U.S. Pat. Off.

DESIGN IT BETTER ENGINEERING B-W PRODUCTION T.M. *MAKE IT BETTER*

BORG-WARNER®

310 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS

MANUFACTURING RATIOS

continued from page 52

DEFINITIONS OF TERMS

THE RATIOS—The data used are based upon a representative sampling with a tangible net worth which only occasionally is below $50,000. . . . The center figure for each of the twelve lines is the median. The other two figures in each line are quartiles: for each ratio they indicate the upper and lower limits of the experiences of that half of the concerns whose ratios are nearest to the median. When any figures are listed in order according to their size, the median is the middle figure (same number of items from the top and the bottom) and the quartiles are the figures that are located one-quarter and three-quarters down the list.

COLLECTION PERIOD—The number of days that the total of trade accounts and notes receivable (including assigned accounts and discounted notes, if any) less reserves for bad debts, represents when compared with the annual net credit sales. Formula—divide the annual net credit sales by 365 days to obtain the average credit sales per day. Then divide the total of accounts and notes receivable (plus any discounted notes receivable) by the average credit sales per day to obtain the average collection period.

CURRENT ASSETS—Total of cash, accounts and notes receivable for the sales of merchandise in regular trade quarters less any reserves for bad debts, advances on merchandise, inventory less any reserves, listed securities when not in excess of market, State and municipal bonds not in excess of market, and United States Government securities.

CURRENT DEBT—Total of all liabilities due within one year from statement date including current payments on serial notes, mortgages, debentures, or other funded debts. This item also includes current reserves such as gross reserves for Federal income and excess profit taxes, reserves for contingencies set up for specific purposes, but does not include reserves for depreciation.

FIXED ASSETS—The sum of the cost value of land and the depreciated book values of buildings, leasehold improvements, fixtures, furniture, machinery, tools, and equipment.

FUNDED DEBT—Mortgages, bonds, debentures, gold notes, serial notes, or other obligations with maturity of more than one year from the statement date.

INVENTORY—The sum of raw material, material in process, and finished merchandise. It does not include supplies.

NET PROFITS—Profit after full depreciation on buildings, machinery, equipment, furniture, and other assets of a fixed nature; after reserves for Federal income and excess profit taxes; after reduction in the value of inventory to cost or market, whichever is lower, after charge-offs for bad debts; after miscellaneous reserves and adjustments; but before dividends or withdrawals.

NET SALES—The dollar volume of business transacted for 365 days net after deductions for returns, allowances, and discounts from gross sales.

NET SALES TO INVENTORY—The quotient obtained by dividing the annual net sales by the statement inventory. This quotient does not represent the actual physical turnover, which would be determined by reducing the annual net sales to the cost of goods sold, and then dividing the resulting figure by the statement inventory.

NET WORKING CAPITAL—The excess of the current assets over the current debt.

TANGIBLE NET WORTH—The sum of all outstanding preferred or preference stocks (if any) and outstanding common stocks, surplus, and undivided profits, less any intangible items in the assets, such as good-will, trademarks, patents, copyrights, leaseholds, mailing list, treasury stock, organization expenses, and underwriting discounts and expenses.

TURNOVER OF TANGIBLE NET WORTH—The quotient obtained by dividing annual net sales by tangible net worth.

TURNOVER OF NET WORKING CAPITAL—The quotient obtained by dividing annual net sales by net working capital.

ever find IBM under your Christmas Tree?

If you've ever wondered how the good things under your tree were made and delivered in time for a merry Christmas morning, the last thing you might think of is a battery of busy IBM machines.

But it's a fact: in thousands of bustling workshops and stores throughout the world, IBM data processing systems help in the manufacture and distribution of toys and clothes and all the other wonderful things that enter into your holiday giving.

Yes . . . every day, in uncounted ways, IBM helps add to the pleasure of daily living . . . speeds the progress that makes for many, many merry Christmases!

IBM DATA PROCESSING

DATA PROCESSING
ELECTRIC TYPEWRITERS
MILITARY PRODUCTS
TIME EQUIPMENT

SPUTNIK AND THE CHRISTMAS STAR

NINETEEN HUNDRED AND FIFTY-SEVEN years ago, three wise men beheld a celestial phenomenon. They followed the beacon until it hovered over a cave in the Judean hills. The Star heralded a brief period of peace and brought into the world a concept of human values and spiritual rewards that has helped to sustain mankind through twenty centuries of alternating faith and doubt—twenty centuries that have recorded a slow net gain in the progress of the individual.

Today, men wiser in the ways of natural science, though not in the ways of the spirit, have outdone Aladdin, Merlin, Mananain, and all the magicians and sorcerers of the storybooks. For the applause if not for the good will of men, Russian scientists have created a star and launched it into space. American scientists, somewhat abashed, are hoping to hurl an equally impressive object into the zodiacal racetrack.

No doubt Soviet Russia has many ethical and well-intentioned savants who are hopefully working their computers and straining at all the mathematical patterns that can be applied to the laws of nature for the sake of a world of peace and plenty. Though they may care little for a flag or a political creed, such men are still intellectual captives of a system that makes science the servant of an evil notion that the end justifies the means. The range of their freedom is only the distance that a prisoner seeking the light may drag his chains. The American scientist may complain about restraints on his mental enterprise where classified information is concerned, but at least he has a voice in the disciplines set up, and the unimpaired right to criticize any person or policy that interferes with free circulation of ideas, whether scientific, social, or political.

Gravity has anchored man to earth for countless centuries. In our epoch he has flown higher than the bird, plunged deeper than the whale, and with Promethean strength has hurled a ball into outer space. He may take off for himself soon and scare the feathers off the seven ranks of the angels—all of which a divine eye might observe with mixed anguish and pride in the creature of His handicraft.

Man has conquered nature—almost. But while he may report a little progress, he cannot claim to have conquered himself—not even almost. There is, of course, a prescience of doom among the Cassandras who prophesy that man may have learned to destroy himself—but perhaps that decision still rests with a higher power. There need be no evil in man's enlargement of his domain through the doors of science, with each new door opening into wider vistas of challenge and achievement. But man's potential for greatness is still the vast and unmeasured realms of his mind, and the deeper, still unplumbed depth of the human spirit.

Man is a gregarious creature. If he cannot get along with his neighbor, neither can he get along without him. In his heart he knows this to be true. After every bloody conflict he cries out, "Peace, peace! There is no peace," and seeks an answer in such things as the League of Nations and the United Nations, and despite failures keeps trying and never loses hope.

Every impulse of power requires controls. The spirit seeks to act as governor over the ideas of man, as they gain in dimensions and velocity. The spirit asks, "What shall it profit a man if, as a mimic of the Creator, he gains dominion over the whole world but fails to fulfill his responsibility to his fellow man?"

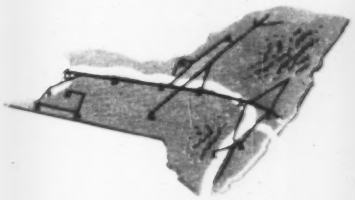
Scientists on both sides of the Iron Curtain may play ping-pong with the satellites, and the world may find industrial and recreational application of their achievements on the frontiers of the atomic world. Size, speed, time, and space have lost much of their significance as precision concepts, but the Star of Bethlehem as a symbol of human hope has never changed by a single blink of an eye. Its meaning is still greater than the combined threat of the sputniks and the promise of a synthetic star that wise men of the West may launch over the world. A pity it is that the enormous intellectual resources of our day do not include enough wisdom to evoke good will among all men. Yet we may console ourselves that the spirit of man has never given up the search for understanding. In that faith we must abide, survive, and move unflinchingly forward.

—A.M.S.

"UPSTATE, N.Y."

IF YOU'VE ever wondered *where* to locate a new plant, then you've probably wished for a "wonder site" something like this: located in the centre of the nation's richest markets, with all the stability and healthful living of a small city. That's a description of Dunkirk, New York. A circle with 500-mile radius around Dunkirk "captures" a tremendous market, including much of our best customer, Canada. The circle is richly supplied with fast transportation by rail, sea and the new New-York State Thruway.

Upstate, N.Y. is a good place to do business, a good place to live. Skilled, home-owning labor . . . fine vacationlands . . . plenty of low-cost electricity and gas . . . ample water supply: these are a few of the advantages. Let us tell the complete story of this area. Write to Earle J. Machold, President, Niagara Mohawk Power Corporation, Syracuse, N.Y.



At left is an artist's conception of Dunkirk, N. Y. on Lake Erie. Lower right is Niagara Mohawk's 200,000 KW steam power station, now being expanded to 600,000 KW capacity.

powered by NIAGARA MOHAWK

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Guild Lighting—lamps by Art Lamp Corporation and architectural lighting by Stamford, Inc. are technically developed for lighting efficiency, related to other Guild components. **Guild Clocks** by Howard Miller Clock Company. A series of clocks styled, scaled, and finished to become an integral part of a functional office.

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Executive BOOKSHELF

Company organization and what's wrong with it

PERSONALITY AND ORGANIZATION: THE CONFLICT BETWEEN THE SYSTEM AND THE INDIVIDUAL *by Chris Argyris. Harper & Brothers, 49 E. 33rd St., New York 16. 304 pages. $4.*

The way of the executive is hard. No sooner does a set of management principles win fairly general acceptance than someone comes along with arguments and data designed to refute them.

Professor Argyris, research project director at the Yale Labor Management Center, has studied the results of a tremendous quantity of industrial relations research (his own and others') and has come up with some startling conclusions about current theories of company organization.

Chief among these is the contention that the traditional principles of formal organization (chain of command, task specialization, and so on) inevitably make for trouble in practice. Worse still, he argues, the more mature, independent, and active the people in the organization are, the more frustrating they are likely to find the formal organization and the greater will be the tendency toward disturbance. Further, he believes that the formal organization built on currently accepted principles tends to foster hostility between groups and individuals, and discourages interest in and support of the progress of the company as a whole.

While Professor Argyris documents his case in great detail, his views are unlikely to win wide acceptance, especially since—as he admits in his preface—he is readier to pinpoint what is wrong with company organization than to prescribe for improvement. Nevertheless, his book deserves attention. Today's large business organizations are a comparatively new phenomenon, and it is unlikely that problems of structure have been settled once and for all. In reviewing the unorthodox view expressed here, managers and organization specialists may be stimulated to consider new approaches which may ultimately result in advances in the field. It may not be necessary or advisable to junk today's principles, but reexamination can do no harm.

Making the best of it

HOW TO GROW IN MANAGEMENT *by James Menzies Black. Prentice-Hall, Inc., Englewood Cliffs, N.J., 259 pages, $4.95.*

Whether or not current forms of business organization are frustrating, most business executives must live within them and make the best of things as they are. Mr. Black supplies advice on how to do it, and advance up the line in the process.

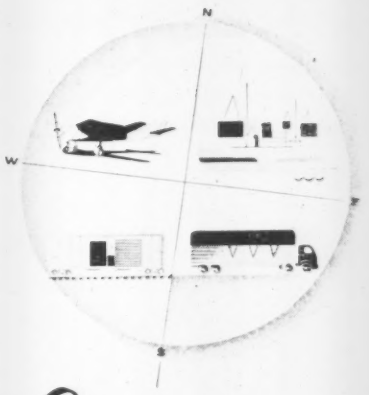
"You must," he points out, "prove your ability to do things in an orthodox manner before people will follow you on a trail-blazing expedition. Once you have won their confidence, they will rely on your judgment and you can accomplish almost anything."

His sound, practical counsel is supplemented by checklists that enable the executive to score himself on such factors as decision-making and ability to communicate.

Fun with administration

PARKINSON'S LAW AND OTHER STUDIES OF ADMINISTRATION *by C. Northcote Parkinson. Houghton, Mifflin Company, 2 Park St., Boston, 113 pages, $3.*

This book is a spoof, but like all really good humor, it contains a considerable element of truth. Parkinson's Law is simply that the number of subordinates in any organization, or any unit, increases at a predetermined annual rate (from 5.17 to 6.56 per cent) regardless of the amount of work to be done. Work, Professor Parkinson points out, "expands to fill the time available for its completion. . . . The thing to be done swells in importance and complexity in di-



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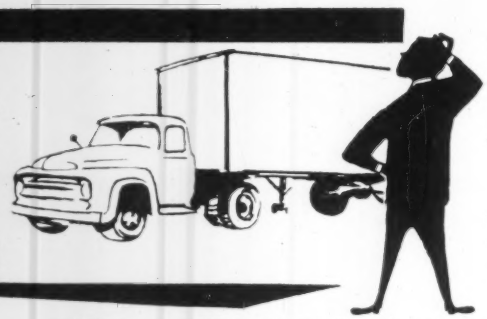

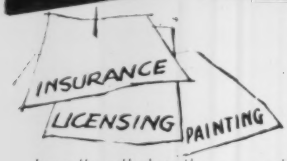

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rect ratio with the time to be spent."

The statistical proof offered for this is drawn from public administration, but many company executives know that private organizations are by no means immune to the operation of Parkinson's Law. They may also have seen the symptoms of the administrative disease "injelititis," described in another chapter, and certainly they will appreciate the author's comments on retirement.

In this book, too, Professor Parkinson introduces a new principle that may be disquieting to companies now busily engaged in erecting new buildings designed to make possible new heights of efficiency. "A perfection of planned layout," he says, "is achieved only by institutions on the point of collapse." And he proves it, too.

Dropping the pennies

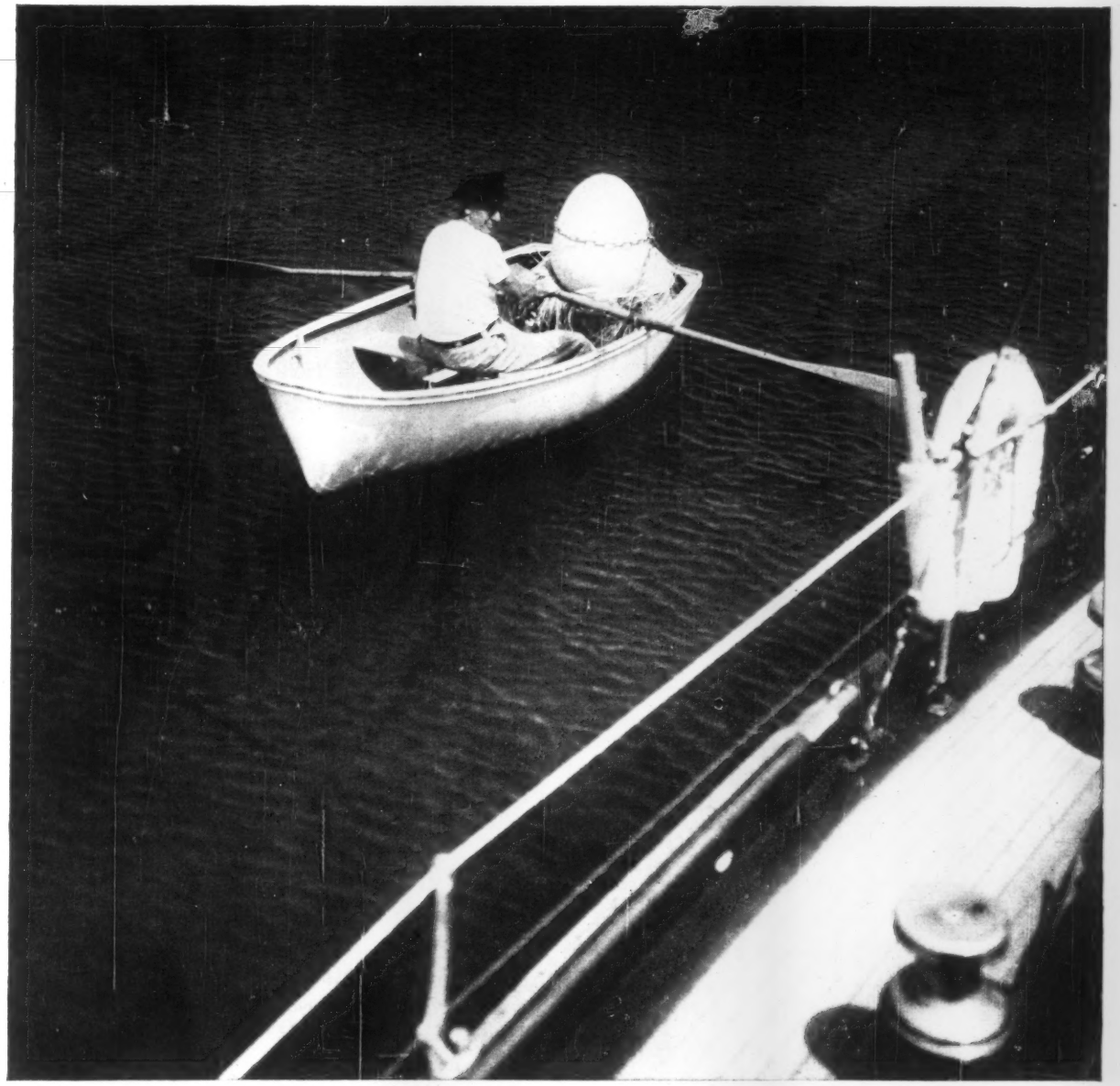
WHOLE-DOLLAR ACCOUNTING *by Florence A. May and Herbert F. Klingman, Controllership Foundation, Inc., 2 Park Ave., New York 16, 335 pages, $7.50.*

Whole-dollar accounting—that is, rounding out amounts to the nearest dollar—is a work simplification measure that has been applied by a number of companies. In this book, the Controllership Foundation presents thirteen case histories, plus an explanation and evaluation of the technique.

The rounding out cannot, of course, be applied to all accounts, but the Foundation finds that it can be successfully used in a wide variety of business situations. Though the objections to it are carefully detailed, the researchers report: "All of our on-the-spot research, as well as diligent search in other published reports of actual experience with whole-dollar accounting, has failed to produce any experience of basic weaknesses or disadvantages inherent in the whole-dollar accounting idea."

A DICTIONARY FOR ACCOUNTANTS, 2ND EDITION *by Eric L. Kohler, Prentice-Hall, Inc., Englewood Cliffs, N.J., 516 pages, $10.*

Although this book is designed for the accountant, executives will undoubtedly find it useful for quick reference, especially when handling technical material in which terms like "assumption" and "event" are used in a special accounting sense. Over 2,500 terms are defined.



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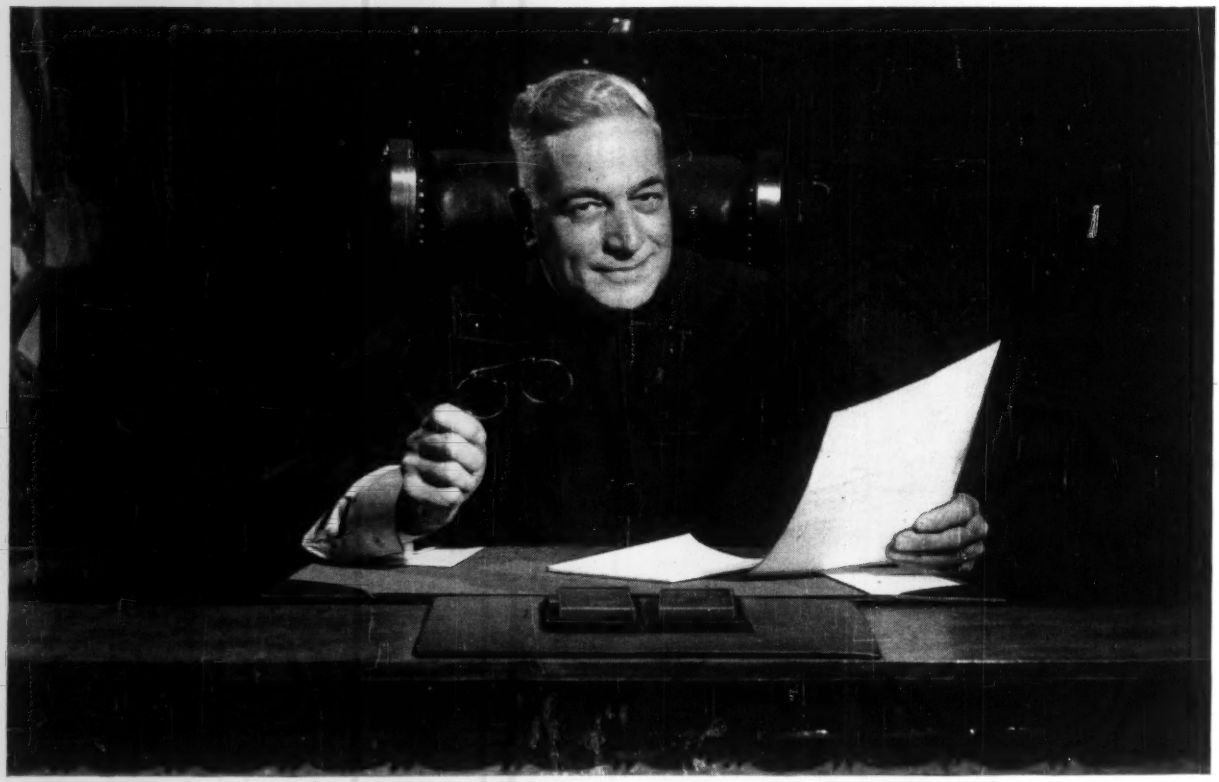

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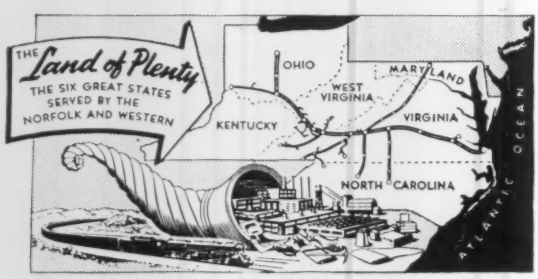

Norfolk and Western RAILWAY

URGE TO DECENTRALIZE

continued from page 42

the earmarks of his outstanding talents. During the 1940's, however, the business grew too large for any one man, whatever his capabilities. Accordingly, Paul Galvin began to decentralize. He built up a strong subordinate organization and promptly began to push much of the burden of running the business on to his key managers. Today, Motorola is highly decentralized. With over $225 million annual sales, it rates as the world's largest manufacturer devoted exclusively to electronic products.

Staff Needs Multiply

Multiplication of product lines also tends to increase the burden on top executives in geometric proportion. Let a food company market its product in 40 states instead of four and its problems are, at worst, multiplied by ten. But let the company branch out into pharmaceuticals, mechanical equipment, and electronics, and the increase is immeasurably greater. As a result, diversification creates a need to redistribute the burden.

Take Carrier Corporation as a case in point. Carrier operated under a centralized management for many years. So long as the company was small and concentrated largely on centrifugal refrigeration equipment, it found this arrangement suitable. Then, before and after World War II, Carrier began to grow at an accelerated pace and to diversify. It spread into unitary equipment completely assembled at the factory, such as room and residential air conditioners, and broadened its lines of commercial and industrial products. This was the cue for the decentralization which has enabled it to grow and diversify with continued vigor.

There are almost as many prescriptions for decentralization as there are companies that have decentralized. But boiled down to essentials, the "how" of decentralization can be summed up in four principles:

1. Decentralization must be balanced by appropriate centralization.

Every move toward decentralization must be matched by an appropriate centralization of authority. A central intelligence must retain authority to guide, coordinate, and control the operating elements so that

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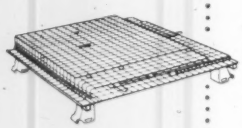

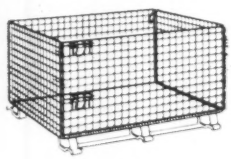

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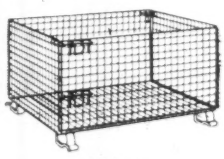

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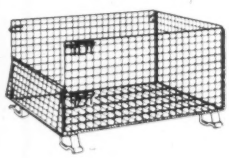

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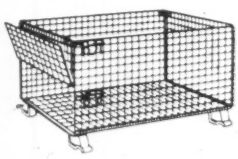

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they will proceed toward a common objective as an integrated whole—not as loosely associated entities pulling every which way to their independent ends.

What *must* be centralized? The answer lies in reserving to top management of the company *only* the authority that cannot be exercised effectively at the operating levels. Centralized authorities *must* include planning, organization, coordination, motivation, and control for the enterprise as a whole.

The centralized authority must establish over-all objectives and policies for the company as a whole, because perspective on the total needs of the enterprise exists only at the top. When properly stated, these corporate plans guide each operating element in planning its own targets.

Effective centralized planning cannot be arbitrary. Subordinate managers cannot be expected to carry out plans with enthusiasm and enterprise unless they have participated in developing of those plans. At United Parcel Service, policies covering every major aspect of the business are set forth in a policy book. Every United Parcel Service supervisor and manager was asked to contribute ideas and recommendations when they are formulated. And every supervisor had an opportunity to review each of the policies when they were revised. Because of this participation, the policies are thoroughly understood and receive wholehearted support.

The central authority must also decide other plans, in both management and functional areas, which affect the total enterprise. For example, a uniform chart of accounts must be approved and enforced by the chief executive or a consolidated balance sheet will be impossible. The same is usually true of personnel policies.

As a case in point, Sylvania Electric Products endeavors to maintain a policy of promotion from within. When there is an opening for a professional, executive, or administrative employee in one of the operating divisions, the opportunity is offered to any qualified employee in another division for whom the job would be a promotion. This means such personnel functions as salary classifications and salary ranges must be standardized.

The over-all organization plan for

the company should be established and maintained centrally also. There must be central coordination of the activities of the operating divisions, or their pulling and hauling is likely to tear the whole structure apart.

2. The degree of decentralization is limited by the availability of effective controls.

Company management can decentralize only to the extent it can evaluate activities of operating units, to determine how well they are doing and to take corrective action if they fall behind.

The most effective means of control for the decentralized company is the profit center plan, under which each decentralized manager is held accountable for the profit and loss of the unit he manages. Where profit center decentralization is most effective, he also participates in an incentive plan that ties his total income directly to his profit achievement.

A classic example—and certainly one of the pioneers—of effective profit center decentralization is Du Pont. Each of the product divisions operates on a highly autonomous basis. Each manufactures and sells its own products. Divisions buy and sell among themselves, generally on the same terms as outside customers. Their products even compete in the same markets.

At Ford Motor Company, too, each product division is measured in terms of profit and loss. To make this possible, each division is given the staff it needs: manufacturing engineering, production programming and control, plant engineering, quality control, industrial relations, and finance.

Controls directly limit the extent of possible decentralization. As the chief executive of one multi-plant processing company put it, somewhat ruefully, after two fruitless attempts to decentralize: "Never try to run a spirited team without a firm hand on the reins."

3. Appropriate organization structure aids decentralization.

Decentralization is possible in any type of organization structure, and it can be instituted by any manager, at any level. But some types of organization facilitate decentralization, while others make it difficult.

Consider first the functional form

"Gee whiz, Dad . . . the company gave you a Hamilton!"

Dad isn't really a hero, genius or record-breaker. But he has been dependable and on the job for twenty years—and didn't have to wait 'til the end of the road to receive recognition. He's only 42 and has many good years ahead. And, *the company* will benefit, too, judging from the look on Dad's face when he said: "Most watches tell only the time, but my HAMILTON tells how they feel about me!"

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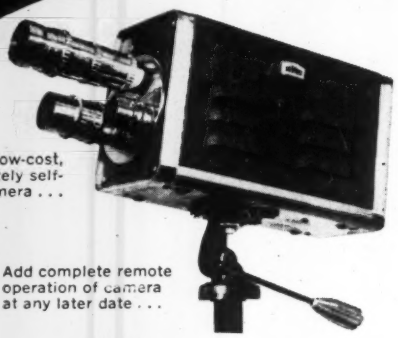

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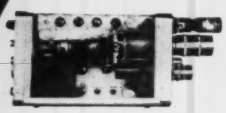

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of organization. Here a high degree of centralization automatically ensues because only the president is organizationally placed to handle decisions involving all functions. Hence the full weight of every operating problem of any importance inevitably lands squarely on him. Since the functional heads cannot command all the costs that affect their profits, they cannot be held fully accountable. Usually the only workable alternative is to hold them responsible only for the *costs* over which they have authority.

To Each Its Own

A desirable preliminary to decentralization is usually to reorganize the company on a divisionalized basis. In product divisionalization, each product, or group of related products, is organized as a small business unit in itself. It is given its own management, sales, engineering, and other staffs it needs to operate as an independent entity within the framework of the business as a whole.

Du Pont is divisionalized on a product basis. Each of the division managers has been delegated authority to buy his own raw materials and to develop his own manufacturing processes. He is fully accountable for the company's investment in plants, laboratories, processes, facilities, and personnel assigned to him.

Geographical divisionalization will enable the company to accomplish similar results. Each region or area is established as a business unit in its own right and given the administrative and operating tools it needs to operate independently. Then it can be held accountable for its profits. Prudential Insurance Company of America, for instance, has divided its business into seven geographic divisions. Each handles its own actuarial, real estate, investment, medical, legal, and advertising functions, operating along broad policy lines set by the corporate headquarters in Newark, N.J.

Pacific Gas and Electric, serving a territory with rapidly expanding population and industry, established its thirteen geographic divisions early. As demand for electric, gas, water, and steam skyrocketed, the company was able to meet it at each step by continually enlarging the responsibility and authority it had decentralized to its operating divisions. The

manager of each geographical division directs and coordinates the electric, gas, water, or steam heat operations of his division. And the division managers, in turn, have delegated an increasing measure of authority to their districts. Centralized control is maintained over the dispatching of electric power and natural gas.

4. Decentralization demands capable managers.

The popular idea that decentralization develops managers is true to some extent. One of the most effective ways to improve a man's ability to manage is to give him enough authority to carry work through to completion within broad policy limits—and let him stand or fall by the results.

But decentralization can be effective only if the people to whom decision-making is delegated are capable of making effective decisions. As one company president put it: "I can't afford to decentralize unless I have some confidence that my management will make the right decisions more than half the time."

The fact that additional managerial talent will be needed means that a company that is planning to decentralize must first undertake a systematic and vigorous program to develop broad-gage managers who are capable of planning, coordinating, and controlling all the functions necessary to company operations.

The Ultimate Payoff

Decentralization is a difficult and often costly undertaking. It demands critical self-examination by management. There must be a high measure of psychological conditioning before managers will be willing to delegate, and executives will need self-discipline and a certain measure of humility. But once decentralization is accomplished, it can break the shackles of inertia and give every individual in the company added opportunity to strive, achieve, and win tangible recognition for whatever he accomplishes.

This kind of investment in people stimulates initiative and yields enthusiasm and loyalty. Once the company has reached a certain size and degree of complexity, it is perhaps the surest way to long-term productivity and profits. END

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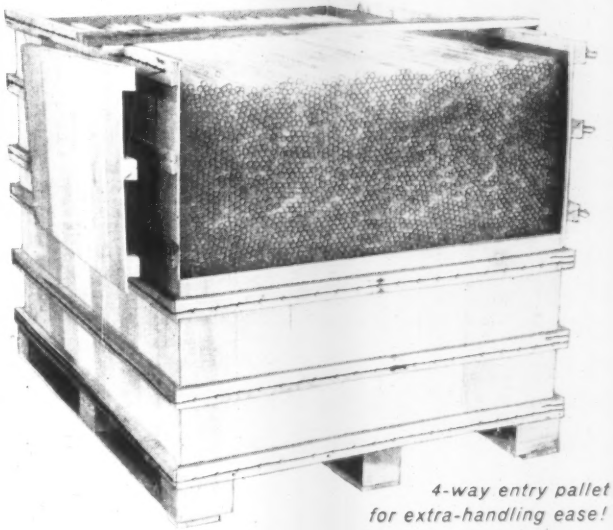

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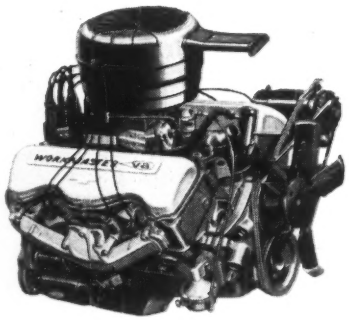

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PRACTICES AND PROBLEMS IN OVERSEAS SALES

ALEXANDER O. STANLEY, *International Markets Editor*

To reinforce your 1958 overseas sales program, you'll need to take a fresh look at your overseas sales channels, compensation practices, and competition. That's what these 118 companies did—and here's what they reported about 80 key markets.

IF YOUR EXPORT SALES curve shows signs of topping off, or if you are thinking of exploring overseas markets to take up the lag in domestic sales, you'll need to appraise three basic sales factors—channels, compensation, and competition. And the expected advent of a buyers' market will spur a closer look at these three basics in the coming months.

To determine existing patterns of sales channels, compensation paid, and the kind and degree of competition encountered in overseas markets, DR&MI recently asked a representative group of 118 U.S. companies to report on their programs and their experiences. The first phase of this study—an analysis of credit terms utilized in selling $545 million worth of U.S. products to 7,258 accounts abroad—was published in the November issue ("Know Your Export Credit Terms," page 85). Reports from the same group of respondents, which are analyzed in this article, yield data on sales techniques that will be helpful both to the experienced U.S. exporter and the newcomer.

Main Sales Channels

The sales agent, whether he operates from an elaborate establishment or carries his office in his hat and pockets, equals in entrepreneurial activity both of the other sales channels combined. *Distributors* (or wholesalers) are employed in one of three cases reported. *Direct sales to retailers*, bypassing both agents and distributors, are made in only one of five cases.

TYPES OF SALES CHANNELS

(percentage)

	Agents	Distributors	Direct to Retailers
Latin America	52	35	13
Europe	54	26	20
Middle East	40	27	33
Africa	56	22	22
Far East	45	31	24

Of course, the patterns vary by country and by trade group (see table, page 76). But it is interesting to note the disparities that show up when the returns are consolidated by areas (see table above).

During the past decade, *overseas affiliations* through investment of capital and know-how have grown in number and extent and have begun to acquire importance in the over-all picture of overseas sales channels. Inspired by a combination of increased market potential and restrictive import practices abroad, U.S. companies have transplanted production and distribution facilities to many of the 60 key markets overseas. Forty-one, or slightly more than one-third of the 118 respondents, reported some affiliation of this kind in one or more countries. Latin America led with 81 units, followed by Europe with 61 units. Africa was a poor third with 24 units, and the Middle and Far East (including Oceania) trailed far down with seven units each. The most popular arrangement was licensing agreements, which were in effect in 102 cases out of 180. Partially owned affiliates accounted for 43 cases and wholly owned overseas branches for 35.

Range of Compensation

Commissions paid to agents and discounts allowed to distributors and retailers are affected by trade practices, market conditions, and competition. Consequently, they vary widely, ranging all the way from ¾ of 1 per cent to 40 per cent. Basically, the responses indicated limited variation by country of sale and considerable variation by product. Companies were likely to use the same basis of compensation across the board, whether in Buenos Aires, London, Cairo, Capetown, or Manila. As a rule of thumb, the most popular ranges were from 1 to 5 per cent and from 5 to 15 per cent—with 5 per cent commissions or discounts most frequently mentioned. Detailed information on the 72 product categories represented by the respondents appear on page 76.

Competitive Factors

To pin down the competitive pressure points currently encountered

overseas, the companies in the survey were asked to indicate which of fourteen factors were giving them the most trouble. The answers are reported in detail in the table on page 77. (The data have been analyzed in units of frequency of mention rather than percentages, to allow for a comparative evaluation by factor, by country, and by product, in terms of total and repetitive responses.)

In terms of area and product, the following are the highlights of the competitive story:

- **Lower prices**

No. 1 on the complaint parade, this factor was high on the list of problems in 44 of the 60 countries reviewed and in seventeen of the 21 major trade groups analyzed. More than a fourth of those who answered this question (27 per cent) considered it the most important competitive element. Comments by some of the respondents indicated that: (1) European products were being offered at lower prices in world markets; (2) local branches of U.S. and foreign companies were enjoying and pushing a price edge; and (3) price competition from locally owned manufacturing companies without foreign affiliation was increasing.

Price competition was mentioned as the predominant factor in fifteen of the 24 Latin American markets studied, but seemed less of a factor in Europe, where it received fewer mentions. Still, it occupied the No. 1 slot in nine of the fifteen markets, notably Scandinavia, Italy, Germany, and Holland. In the Middle East, it was encountered in three of the four markets reviewed—which is not surprising, since this area has been traditionally considered within the export orbit of Europe. Not so serious in Africa, it shared importance with other competitive problems, although it occupied first position in five of the nine markets. In the Far East, only one market—Hong Kong, the discount center of the area—was designated as a price trouble center.

By trade groups, lower prices were the prime sales block in only eight of 21 major industrial groups, sharing the first spot with other factors (or running a close second) in eight other groups. Prime complainers were chemical products; non-electrical machinery; and professional, scientific, and controlling instruments.

continued on page 78

TABLE I: TYPICAL OVERSEAS SALES CHANNELS, COMPENSATION, AND FOREIGN AFFILIATIONS OF 118 U.S. COMPANIES

KEY: A—No. of Accts. | B—Range of Compensation (percentages): B1 Low, B2 Median, B3 High | C—Types of Sales Channels Used: C1 Agents, C2 Distributors, C3 Direct to Retailers | D—Number and Kind of Foreign Affiliations: D1 Branch, D2 Partly Owned Affiliate, D3 License Agreement

	A	B1	B2	B3	C1	C2	C3	D1	D2	D3
FOOD AND ALLIED PRODUCTS, n.e.s.					**100**					
Canned Foods	184	3	**3-5**	5	**90**		10		2	
Flour & Grain Mill Products	159	2	**2-5**	10	**82**	10	8	1	5	9
Prepared Feeds for Animals	114	1	**1-5**	10	**90**	6	4	4		9
Poultry Hatcheries	7									
Chocolate & Cocoa Products	67	1	**1**	2	**84**		16	4		
Flavoring Extracts	217	1	**1**	2	**80**	5	15			1
TEXTILE MILL PRODUCTS										
Yarn Mill Products	29	2	**10**	10	**100**			1		
Woolens & Worsteds	6	5	**5**	5	**100**				3	
APPAREL										
Men's & Boys' Clothing	75				**100**					
Work Shirts	75				**100**					
Women's & Children's Undw.	35	6	**6**	6	**75**		25			
Foundations & Corsets	1726	2	**2-10**	10	**72**	2	26			4
FURNITURE & FIXTURES										
Metal Office Furniture	17						**100**			
Public Building Furniture					**100**					
PAPER & ALLIED PRODUCTS, n.e.s.	888	¾	**1-5**	5	**79**	5	16		1	1
Pulp Mills	646	¾	**1-5**	5	**93**	1	6			
Paper Coating & Glazing	8	5	**5**	10	**83**	17		1		
Paperboard Boxes	607	¾	**1-5**	5	**93**	1	6			
CHEMICALS & ALLIED PRODS., n.e.s.	47	20	**20**	20		**82**	18			
Industrial Inorganic Chemicals						**100**				
Plastic Materials	18	5	**5**	5	**66**	34				
Pharmaceutical Preparations	246	15	**15**	20		**100**			5	26
Paints, Enamels & Varnishes	12	10	**10**	10	**100**					
Fertilizers	67	½	**1-2**	2	**92**		8	4		
Essential Oils	278	3	**3-10**	10	**80**	3	17			1
Cosmetics	217	10	**10**	10	**80**	6	14			
PETROLEUM & COAL PRODUCTS										
Petroleum Refining	152						**100**			
Coke	11				**66**		34			
Other Petroleum Products	9				**100**			3		
LEATHER & PRODUCTS										
Footwear	96	1	**1-7½**	7½	**100**					
STONE, CLAY & GLASS PRODUCTS										
Pressed & Blown Glassware	193	7	**7**	15	**60**	39	1		6	1
Pressed & Blown Glassware (Retail)		30	**40**	40			**100**			
Minerals & Earths	67	½	**1-2**	2	**84**		16	4		
PRIMARY METAL INDUSTRIES										
Steel Works & Rolling Mills Pdts.	10	10	**10**	10	40	**60**			5	8
Wire Drawing	9				**100**				1	
Primary Metals n.e.s.	48	2	**2**	2	**100**					
FABRICATED METAL PRODUCTS										
Heating & Cooking Apparatus	30	10	**10**	10	10	20	**70**			3
Structural Steel; ornamental metal	6	22½		32½			**100**			4
Screw Machine Products	58	5	**5**	10	**100**					
MACHINERY (EXCEPT ELECTRICAL)										
Agricultural Machinery	177	25	**25**	35	**50**	**50**			2	2
Construction & Mining Machinery	29	10	**10**	10	**50**		**50**	1		
Metal Working Machinery	12					**100**			1	
Textile Machinery	29	10	**10**	10	**100**			1		
Paper Industries Machinery	21	10	**10**	10	**100**					
Printing Trade Machy. & Equip.	3				**50**	**50**				
Pumps & Compressors	32	10	**10-20**	26	**50**	32	18			3
Industrial Trucks & Mtls. Handling	63						**100**			
Refrigerators, Air Conditioners						**100**				
ELECTRICAL MACHINERY & EQUIPMENT n.e.s.					**100**					
Wiring Devices & Supplies	19				20	**80**				
Power & Distribution Transformers	50	5	**5**	5	**100**					
Elec. Equipment—Industrial n.e.s.	80	10	**10**	10						
Electrical Appliances	94					**100**				
Communication Equipment	22					**100**				
TRANSPORTATION EQUIPMENT										
Motor Vehicle Parts & Acces.	39				40	7	**53**		1	
PROF., SCIEN. & CNTRL. INSTR., n.e.s.	1				**100**			1		
Mech. Measuring & Control. Instr.	6	22½		32½			**100**			4
Photographic Equip. & Supplies						**85**	15		3	
Watches & Clocks & Devices	814				**70**	30			2	
MISC. MANUFACTURING INDUSTRIES										
Silver & Plated Ware	293				**73**	7	20		1	1
Costume Jewelry & Novelties	293				**73**	7	20			
Umbrellas, Parasols, Canes	16	5	**5**	5	**100**					
MISC. TRADE & SERVICES										
Whol. Amusement & Sporting Goods	42					**100**				
Whol. Automotive Equipment	11				**50**		**50**			
Whol. Dry Goods & Apparel	43						**100**			
Whol. Piece Goods	12	5	**5**	5	**100**					
Apparel (Brokers)	61	2	**3**	5	**100**					
General Stores					**50**	**50**				
Professional Engineering Services					**33**	**33**	**33**	1		
Export Brokers	402	5	**5-15**	33½	**80**	10	10	9		9
Others Miscellaneous n.e.s.	167	16		33	8	**84**	8		5	16

n.e.s.—Not Elsewhere Specified.
Figures in bold in these tables represent highest percentage or frequency factors

TABLE II: KINDS OF COMPETITIVE FACTORS ENCOUNTERED BY 118 U.S. COMPANIES OVERSEAS

KEY: A. Lower prices; B. Limited dollar exchange; C. Longer credit terms; D. Discriminatory exchange and import controls; E. Newly established foreign branches; F. Local firms with no foreign affiliations; G. Higher discounts or commissions; H. Newly established branches of U.S. companies; I. Local companies under foreign license agreements; J. Faster delivery; K. Local concerns under U.S. license agreement; L. Higher dollar rate vs. other foreign currencies.

TABULATIONS BY COUNTRY

	TOTAL	A	B	C	D	E	F	G	H	I	J	K	L
Argentina	53	6	7			8	16	5		6		1	4
Bolivia	42	5	7	1		6	16		2	3			2
Brazil	71	8	8	1	1	10	22	4		7	4	2	4
Br. West Indies	31	5	2	1		4	14	1		3			1
Chile	45	8	6	1		6	19			3			2
Colombia	53	8	10			9	22			3			1
Costa Rica	35	12	12			3	4	2		2			
Cuba	61	29	13	4	1	2	1		3	4	1		3
Dominican Republic	31	12	7	2	1	4	2			2			1
Ecuador	35	10	6			6	11			2			
El Salvador	35	17	7	1	1	2	2			3		1	1
Guatemala	38	17	12	1		2	2			2			2
Haiti	26	12	6	1		1	3			2			1
Honduras	27	11	5	3		2	3			2			1
Mexico	72	16	13		1	7	5		5	5	6	3	11
Netherlands Antilles	26	10	5	1		2	3		1	3			1
Nicaragua	32	13	7			2	4		1	3			2
Panama	35	18	7	1		1	2		1	3			2
Paraguay	18	2	4			1	9			2			
Peru	42	16	10		1	3	5	1	1	3			2
Puerto Rico	54	21	18	4	5	1			2	1			2
Surinam	14	7	2			1	2			2			
Uruguay	26	3	4			3	10		1	3			2
Venezuela	70	22	20	4	1	7	5		3	4	1		3
LATIN AMERICA	972	288	198	26	12	93	182	13	20	73	12	7	48
Austria	25	6	2	1		3	7			3		1	2
Belgium Luxembourg	27	9	5	1		2	3			2	1		4
Denmark	26	9	2			2	5		1	3	1		3
France	49	10	5		1	8	15			3	2		5
Germany	39	13	6	2	3	3	2			2	1	2	5
Greece	52	12	10	4	1	2	15		1	4			3
Ireland	20	8	2			4	3			2			1
Italy	39	12	5			1	11			3	1	2	4
Netherlands	39	14	4		3	3	6		1	3		2	3
Norway	25	9	2			1	4			2	1	2	4
Portugal	26	4	2			4	11	1		2		1	1
Spain	34	8	4		1	5	13			2	1		
Sweden	34	9	5	1	1	3	5		1	3			6
Switzerland	26	9	3	1	1	1	3		1	3	1	1	2
United Kingdom	41	9	3	1	1	8	10		1	3			5
EUROPE	502	141	60	11	12	50	113	1	6	40	9	11	48
Egypt	25	7	4	1	1	3	8			1			
Israel	34	9	6		1	3	9			3	1	1	1
Syria	22	5	5		1	1	6			2		1	1
Turkey	22	4	3			5	8			2			
MIDDLE EAST	103	25	18	1	3	12	31			8	1	2	2
Belgian Congo	8	3	1			1	1			2			
Br. East Africa	12	2	1			4	3			2			
Br. West Africa	13	3	2			4	2			2			
Fr. Equat. Africa	9	2	1			2	2			2			
Fr. West Africa	8	2	1			1	2			2			
Ghana	8	3	1				2			2			
Liberia	8	3	1				2			2			
Morocco	11	4	1			1	3			2			
Un. of South Africa	49	10	6			8	8		1	4	2	3	7
AFRICA	126	32	15			21	25		1	20	2	3	7
Australia	35	6	2			7	9			4	1	2	4
Hong Kong	30	10	3			3	6		2	4			2
India	47	10	7			7	11		1	6		1	4
Indonesia	23	3	4			2	7		1	4		1	1
Japan	35	5	3			7	10			4	1	1	4
New Zealand	16	2	1			4	5			2			2
Pakistan	28	8	3			3	9		1	3			1
Philippines	55	15	4			10	15		2	3			6
FAR EAST & OCEANIA	269	59	27			43	72		7	30	2	5	24

TABULATIONS BY PRIMARY TRADE GROUPS

Food & Allied Products	127	44	45			1	17	1	1	9	1	4	4
Textile Mill Products	15	8	4			1		1					1
Apparel & Fabric Products	100	31	1		2	40	10		1		3	4	8
Furniture & Allied Products	58	21	15			4	10	1	2	5			
Paper & Allied Products	144	37	28	4	4	24	19	1	3	1	1		22
Chemicals & Allied Products	291	60	40	3		34	81	2	8	39	2	7	15
Petroleum & Coal Products	66	24	24	2		3	12					1	
Leather Products	59	14	4	6	3	9	6		1	1	1		14
Stone, Clay, & Glass Products	54	14	11	2	3	7	13	1			2		1
Primary Metal Products	57	9	3		1	1	31	2		5	1	1	3
Fabricated Metal Products	115	35	10	6		26	16		1	1	2		18
Machinery, non-electrical	240	78	45	7		9	65	1	1	3	4	2	25
Machinery & Supplies, elec.	214	33	35	5	10	14	85	1	8	8	3	5	7
Transportation Equipment	2	1	1										
Prof., Sci., & Control. Inst.	178	60	3				16		1	89	3		6
Miscellaneous Mfg. Industries	57	20	14	3	3	5	10						2
Wholesalers, all products	84	28	12			30	11	1		1	1		
Service Organizations	37	9	11		1	8	2	1	1			1	3
Miscellaneous Services	1						1						
Export Brokers	53	17	11			3	10	1	6	5			
Unclassified	20	2	1				8			4	2	3	
Total	1972	545	318	38	27	219	423	14	34	171	26	28	129

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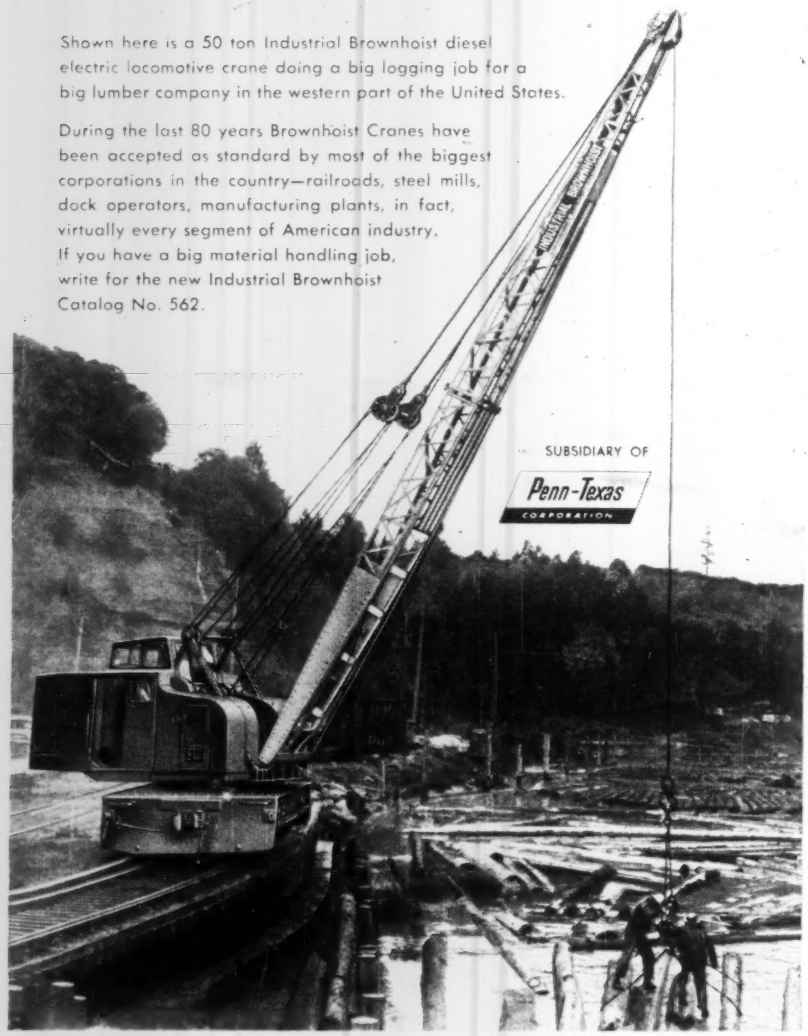

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• Limited dollar exchange

The No. 2 impediment to sales was the limited availability of dollar exchange—which is, of course, difficult for the individual company to correct by direct means other than resort to local investment or licensing.

It appeared as a sales deterrent in 44 countries and six of the major trade groups. It was a key factor in nine Latin American countries: Argentina, Bolivia, Brazil, the West Indies, Chile, Colombia, Ecuador, Paraguay, and Uruguay. All these countries have been having exchange difficulties, and almost all of them are in a particularly exposed condition because of their heavy dependence on one or two key exportable commodities—coffee, wheat, beef, wool, and copper and other metals, in particular—that are finding world markets softening in volume and value.

Dollar exchange was a less sensitive factor in Europe. It was picked as the No. 1 problem in seven markets—Austria, France, Greece, Italy, Portugal, Spain, and the United Kingdom—all of which have had fiscal woes in recent months. In the Middle East, at least four of the markets reviewed were classified as presenting dollar difficulties. A factor in Africa, but not necessarily the most important, limited dollar funds shared the first spot with other competitive pressures. As to the Far East, the dollar situation was defined as the No. 1 trouble spot in all eight markets reviewed—although in the Philippines it shared first place with lower prices.

When the replies are classified by industry, it appears that dollar shortages are most troublesome to the chemicals group; the stone, clay, and glass products group; and the machinery groups, both electrical and non-electrical. But the shortages seemed to be much less a factor in other industrial areas. Peculiarly enough, the products of the latter normally would fall into the less essential categories of allowable imports, according to typical patterns followed by foreign governments in their selection of what is or is not vital to their economies. One possible explanation is that imports of machinery, for example, usually involve heavier individual commitments, and have been eating into dollar exchange reserves at a faster rate than

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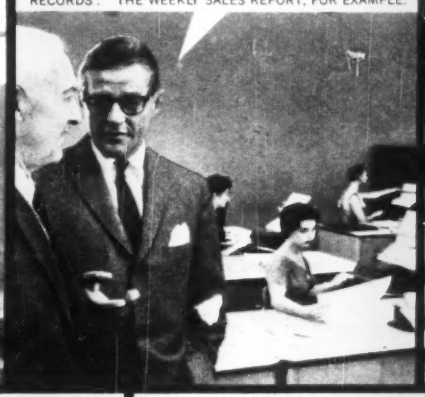

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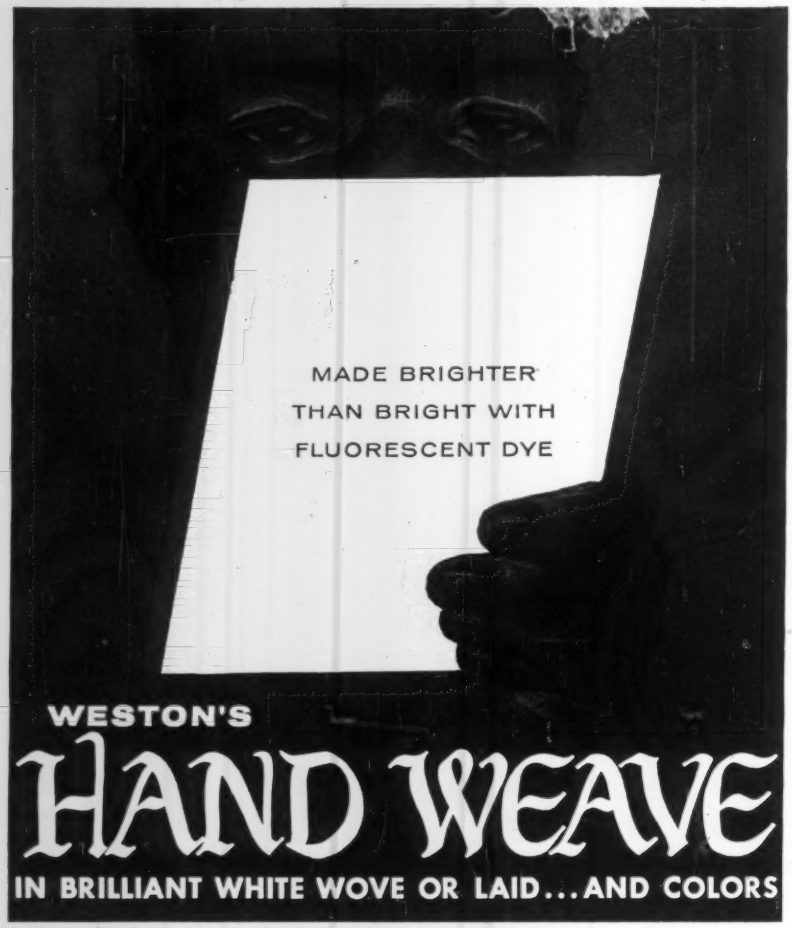

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exchange could be produced by the pedestrian pace of exports of agricultural and extractive commodities.

- **Longer credit terms**

No. 3 on the list of sales woes, the extension of longer credit terms by competitors, was giving U.S. companies particular trouble in Latin America—especially in Costa Rica, Mexico, Puerto Rico, and Venezuela—where it was the second most important complaint. It was of considerably less consequence in Europe and in the Middle East, except in Syria. It was only occasionally mentioned in Africa and was far down the line as a sales problem in the Far East. But what this factor lost in emphasis in any particular market it made up in over-all averages, and for world markets as a whole was high on the list of obstacles to export sales.

It seemed a serious problem to these industry groups: food, paper, petroleum and coal products, nonelectrical machinery, and stone, clay, and glass products. And service organizations reported it their No. 1 headache-producer.

- **Discriminatory exchange and import controls**

Of the total responses analyzed, this constituted a real problem in 11 per cent of the cases reported. Overall, it was fourth on the list of competitive factors. Like No. 2, limited dollar exchange, this is a tough issue to resolve, since the individual company is exposed to the whims of the governments in control. Almost half the responses covering this factor centered in Latin America, although no particular emphasis was given to any country. This also applied to Europe, which accounted for one in four of all responses to this point. The United Kingdom was singled out as the most difficult country in this respect. Infrequently mentioned in the Middle East, government discrimination was regarded as a more serious problem in the Far East and Oceania, especially Australia, New Zealand, and Japan.

As for trade groups, it was a bothersome problem to the apparel group, was frequently mentioned by the fabricated metal products groups, and was the No. 1 bane of the wholesaler respondents. It bothered service organizations to a lesser but still significant degree.

The four factors examined above

represent the most important elements in the competitive story. They accounted for three-fourths of all responses by market and by industry.

Of lesser consequence, but still to be reckoned with, are these competitive factors:

- **Newly established foreign branches**

This competitive element wound up in the No. 5 spot, was incorporated in 10 per cent of the responses, and was ticked off as a relatively major problem in Africa. It was most bothersome to the professional, scientific, and controlling instruments group and was mentioned with some degree of frequency by the chemical group.

- **Local firms without foreign affiliations**

Next in line and accounting for 6 per cent of the responses, this factor was of moderate consequence in Latin America and Europe and was considered a sales deterrent by 9 per cent of the companies in the Far East and Oceania. For the leather products group it shared the No. 1 spot with lower prices among the competitive factors to be reckoned with.

Six remaining pressure points accounted for only a minor percentage of the responses: *higher discounts or commissions; newly established U.S. branches; local companies under foreign license agreements; faster delivery; local concerns under U.S. license agreements;* and *higher dollar rate vs. other foreign currencies.* Higher discounts or commissions were revealed as a modest problem by 2 per cent of those filing data. The remaining five points accounted for only 1 per cent each of the responses.

Two factors of some potential future importance were not checked by any of the companies replying to the survey: *leasing capital equipment* and *accepting capital stock in payment for capital equipment of supplies.*

While U.S. overseas sales still show gratifying gains compared to the high levels of 1956, the outlook for the coming months is clouded. And export management is regarding the immediate future with anxious eyes. A methodical program of realigning sales channels and compensation plans can forestall a deflection in the export sales curve or, at the worst, reduce its impact on international sales. END

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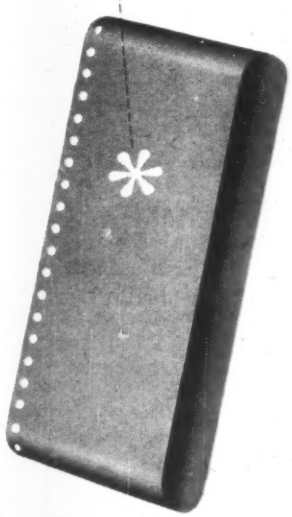

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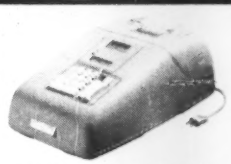

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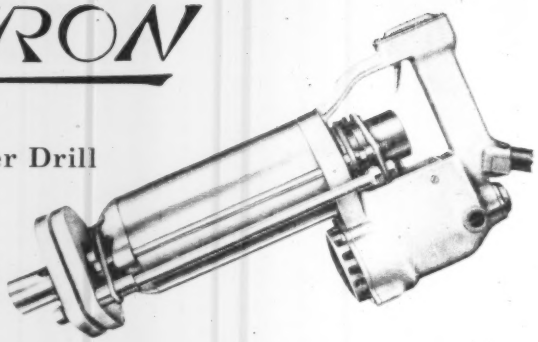

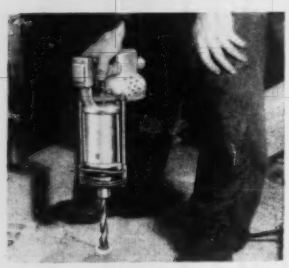

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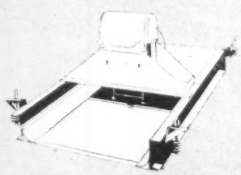

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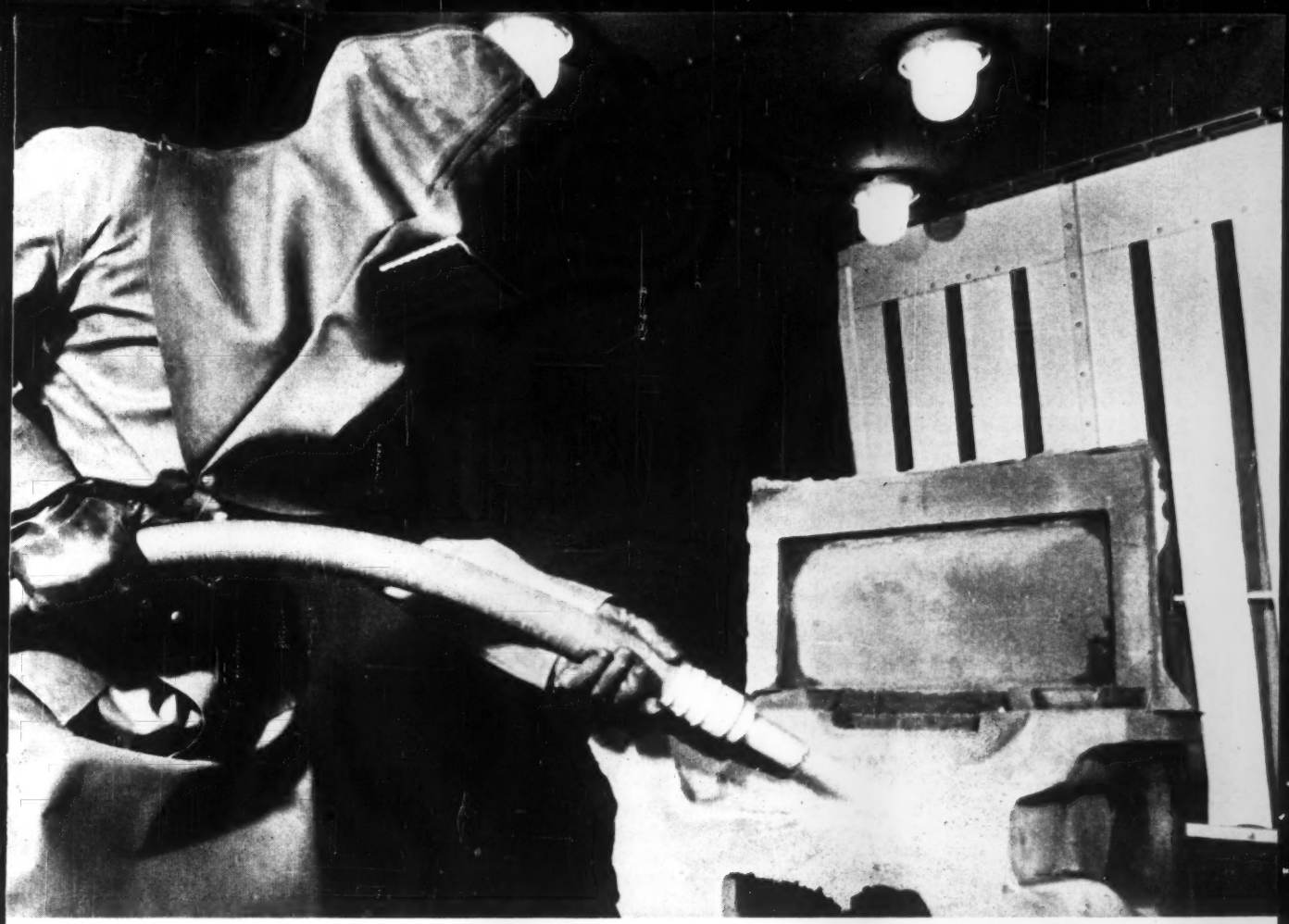
continued from page 45

chemical manufacturer reflects the present thinking of many company officials with these remarks: "If business giving at Christmas *could* be discontinued, that's what I think should be done. But I don't think that is a practical possibility. Since you can't stop it, maybe the best thing to do is limit it to small-value gifts. A bottle of whiskey or carton of cigarettes has no influence on a buyer. A case of Scotch, though, I would send back." This executive minimized the Christmas gift problem by adding: "Christmas giving is a drop in the bucket compared to what goes on all year. Take the case of one company that has a turkey shoot in Georgia, with a plane to pick you up—or another that carts a bunch of executives over to a trout stream in Pennsylvania."

One national manufacturer who formerly sent out a no-gift policy letter to vendors is abandoning the practice this year, apparently because of morale and policing problems. "In my opinion," says the company's director of purchasing, "the giving of gifts at Christmas to business associates is an outmoded practice. In discussing the situation with a large number of sales representatives and sales managers, I strongly feel that they are of the same opinion. It is unsatisfactory for the morale but rather difficult to police. The success of the program depends entirely upon the integrity of the members of the various purchasing departments or others who are on the receiving end."

In the opinion of most executives, the crux of the matter, for givers or receivers, seems to be the value of the gift. According to *Sales Management's* survey, the average cost per gift this year will be $4.22. And more than two-thirds of the companies giving will be spending $5 or less per gift, with only 8 per cent of all companies paying more than $10 per gift.

One major corporation executive told DR&MI: "A couple of bottles of liquor would be O.K. A Cadillac's another thing." Among companies who do not ban gifts, the general feeling seems to be that giving and receiving are relatively harmless as long as the cost is kept down to no more than a one-man tab for a busi-



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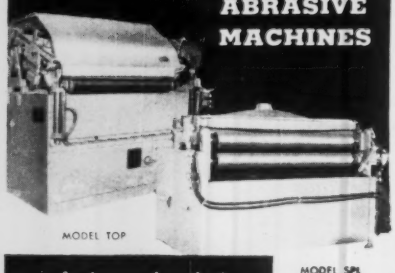

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ness luncheon. Most companies without formal gift policies tend to leave the ethics up to the individual givers' and recipients' judgment.

Why They Give

A DR&MI poll revealed that seven out of ten companies give with some advantage in mind. More than half the time this is simply to further good will. Some give in appreciation of past orders, and a few as "advertising." Three out of ten concerns give because they've always done it. Whatever they think of as their reasons for giving, almost half the companies charge gift expense to advertising, more than a fourth to selling, and the rest to overhead or other expense.

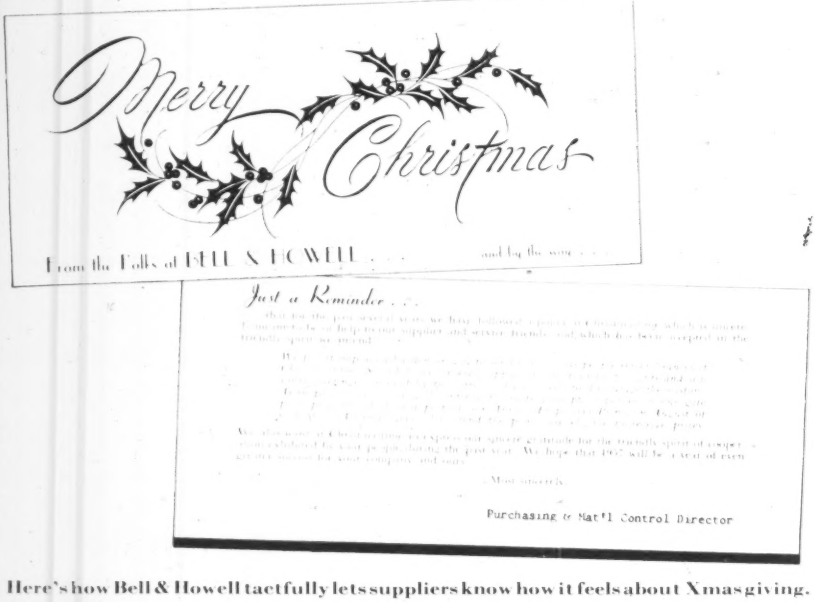
There is a growing trend among companies who give to spread the giving over the year. Last year, according to *Sales Management*, 27 per cent of the companies gave gifts on occasions other than Christmas. This year, an even half plan to do so. These occasions include long-service awards, customers' birthdays, company anniversaries, outstanding service, and plant openings—with sales meetings, plant visits, Thanksgiving, and calls on customers also coming in for some share of gifts.

With companies that do give, what to give is almost as much of a problem as how much to spend. Increasing use is being made of gift clubs and gift advisers, as well as of gift plans that permit the recipient to make his own selection from a catalog of choices within a dollar range set by the donor company. The idea is to save error and embarrassment on the part of the giver and shift the burden of details, beyond making up the gift list, to the merchandise service company.

Should a company give its own products? At Christmas, as at other times during the year, consumer goods manufacturers often give samples of their own products as a form of promotion. But there are some arguments against this. One distiller reports that "there is a tendency for people to feel you got off cheap if you give your own product. Two fifths cost me $8, with about $6 of this going to taxes. For the same $8 I can give a desk and travel alarm clock, with nice brass trim. Maybe the customer will know what it costs, but at least he'll give me credit for it."

Among those who do not ban giving and receiving, not many companies or executives take extreme views on the Christmas gift problem. Whether they like it or not, most seem to regard it as an established tradition and a fringe cost of doing business. The consensus of companies who give and permit employees to receive gifts seems to be that it is easier to follow the tradition than to fight it, and that it had best be lived with as inexpensively and graciously as possible.

—KENNETH HENRY



Here's how Bell & Howell tactfully lets suppliers know how it feels about Xmas giving.

COMPANY Christmas Parties: WHAT SURVEYS SHOW

EVEN IN THE DAYS of quill pens, roll-top desks, and the 60-hour work week, many office workers enjoyed at least one "fringe benefit" a year—the office Christmas party. In one form or another, office parties have been a feature of the business scene for at least a century, and it looks as if they're here to stay. In fact, they're steadily gaining momentum—and this year will mark an all-time high.

That, at least, is the conclusion of the National Office Management Association after surveying Christmas party plans and policies in more than 900 companies of all types and sizes. This month, NOMA's findings indicate, corporate Yuletide festivities will break all previous records in number, in size, in lavishness, and—not least—in cost. For there's a growing trend towards holding them not among the desks and dictaphones but in hotels, restaurants, clubs, and public halls.

The NOMA findings comfirm those of a survey made in 1956 by the Dartnell Corporation: Year after year, the Christmas party custom continues to spread, and where it has once got a foothold, it's hardly ever dropped. "One thing seems sure," says NOMA. "Once a company starts having office Christmas parties, the chances are 99 out of 100 that it will continue to hold them, although the nature of the party may change."

Of the NOMA companies, 580 had parties in 1956, and a somewhat larger number (592) expect to hold one this year. Moreover, the parties are getting larger, because the trend is to invite not only employees themselves, but their husbands and wives—or, in the case of single persons, their sweethearts.

A majority of the executives questioned in both surveys were heartily in favor of Christmas parties—553 were for it as against only 353 opposed, NOMA reports. Providing an opportunity for "the little man to fraternize with the wheels and vice versa" (as one man phrased it), is a strong morale builder, they said. "A spirit of camaraderie develops that is never completely lost," one company declared.

However, a substantial minority—including some of those who were giving parties themselves—were opposed to the custom, and in most cases for one main reason—alcohol and its effects. One man even used the word "debauchery."

Can a company give a Christmas party without alcohol? Some do, but not many. One company, which would not think of having liquor at the party because "our president does not drink," has found it necessary to make attendance compulsory. (It is not alone in compelling attendance, however. Nearly 50 companies said employees had to come.)

Some executives disliked Christmas parties for other reasons. "They cause too many complaints," was one explanation. "If spouses are invited," one man wrote, "single persons object. And the spouses object if they're not invited." Instead of making for greater sociability, another reported, the Christmas party "causes wallflowers to become more withdrawn than ever."

Holding parties well before Christmas seems to be the trend among Christmas-party givers. The last working day before Christmas is becoming less and less popular because it is felt that employees are anxious to rush home early that day. Only about a third of the companies covered in the NOMA survey said that they planned to hold their parties then. The rest

continued on page 95

. . . and what surveys never show

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stimulation of half-solved problems, particularly in the coatings area. For example, the Borden Company has just announced a new adhesive coating for sticking vinyl plastisol coatings to nylon base fabric.

Control instrumentation for coating fabrication is matching advances in controls of all industry. By setting accurate beta-ray thickness gages on either side of a sheet-coating operation and subtracting for the difference, coating thickness can be measured and controlled to extreme accuracy. Ultrasonic, magnetic, and other electronic instruments are available that measure thickness of coatings from the outside.

There may, however, be considerable economies in buying raw materials already coated instead of having production people apply coatings later. If a prime producer sells great quantities of coated material, he can usually coat it cheaper and more uniformly than the user. Some companies sell enormous amounts of coated materials. Both U.S. Steel and National Steel have developed their own processes for continuous electroplating of steel strip with zinc, and galvanized steel is commonly purchased with the zinc coating already applied. Sheet steel and pipe are also supplied with plastic coatings (see photo on page 87).

Coatings in Fabrication

Not only are coatings changing with new fabrication techniques, they are themselves affecting the fabrication of other products—principally in the form of adhesives. Usually these adhesive films are gummy organics, but they also include solids, such as solder coatings that simplify the hermetic sealing of the new ceramic vacuum tubes.

Sometimes, however, the fabrication coating has the opposite function. In shell molding, "release" coatings (see photo on page 88) prevent the hardened-sand shell mold from sticking to the master steel pattern. Another chemical coating, chromium boride, prevents molten aluminum from sticking to the steel parts of aluminum spraying equipment.

In fabricating printed circuits, a coating of "resist" is applied to the copper to control the areas where the copper is etched away. The re-

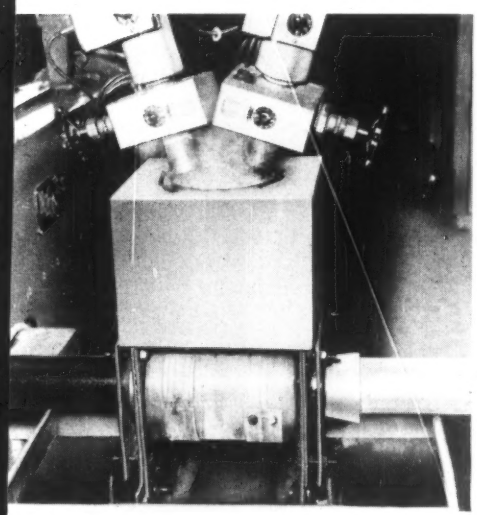
sist is then removed in a bath. After the components have been assembled into the circuit, a coating of varnish or some other moisture-proofing is applied. "Resist" coating is also necessary in photoforming of metal parts.

Where to Go for Help

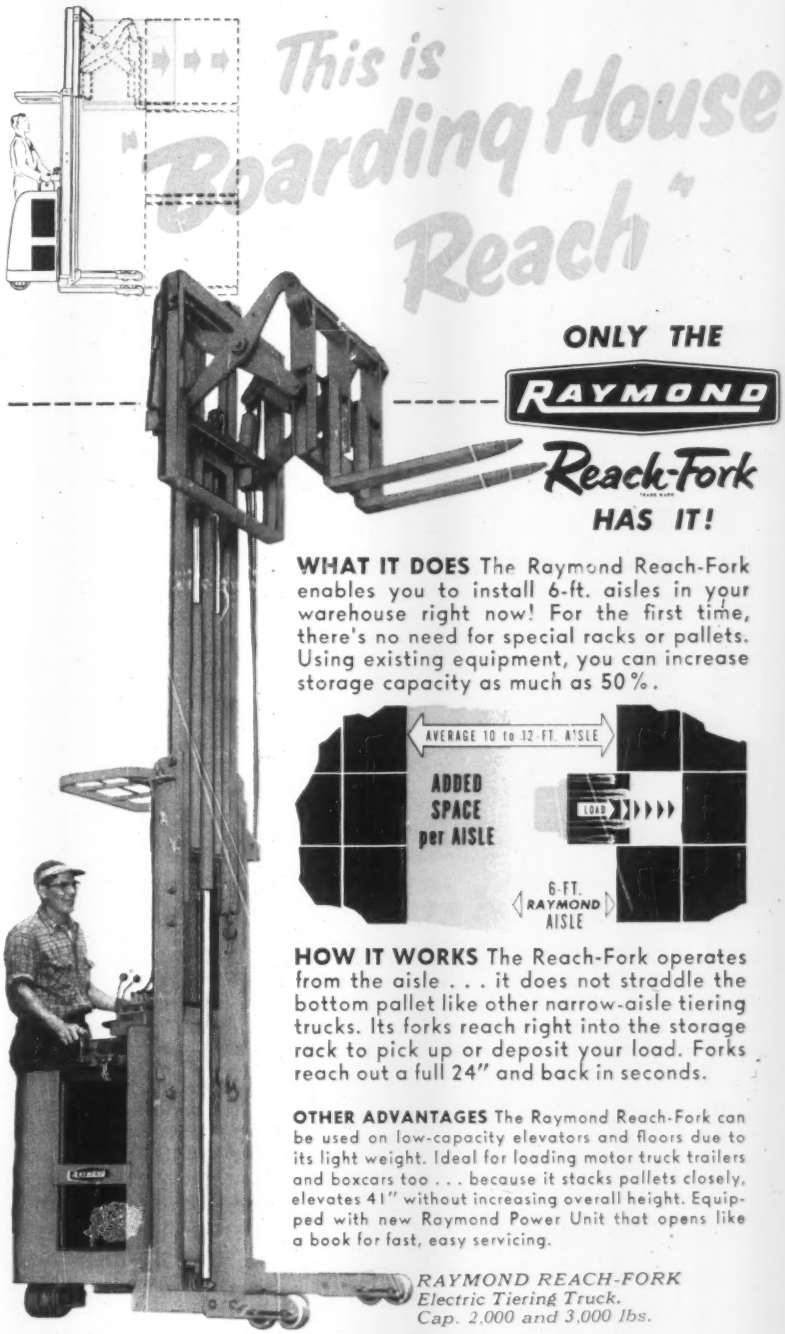
If you have a coating problem with your product, package, or plant, you can usually go to your coating supplier or the supplier of your coated raw material for help. The paint industry alone employs 10,000 research chemists in what is still pretty much of a "cook book art." Many basic metal suppliers maintain extensive research programs in coatings. A. O. Smith Corporation, Milwaukee, Wis., supports a considerable research and development lab for its specialty, thin-glass inner coatings for chemical reactors, hot-water heaters, silos, and beer storage tanks.

Although the paper industry investigates every new plastic that hits the market for possible use as a coating, it does comparatively little coating research. According to one industry spokesman, there are fewer than 100 real researchers in the entire paper industry, and only a fraction of them are concerned with coatings.

Many manufacturers have found that it pays to follow the efforts of researchers in other industries, since an improved coating for one industry usually finds application elsewhere. Practically everyone is interested in



Steel piping entering the apparatus from the right emerges with an adhesive coating. A polyethylene coating comes next. The pipe, made by Republic Steel, goes underground.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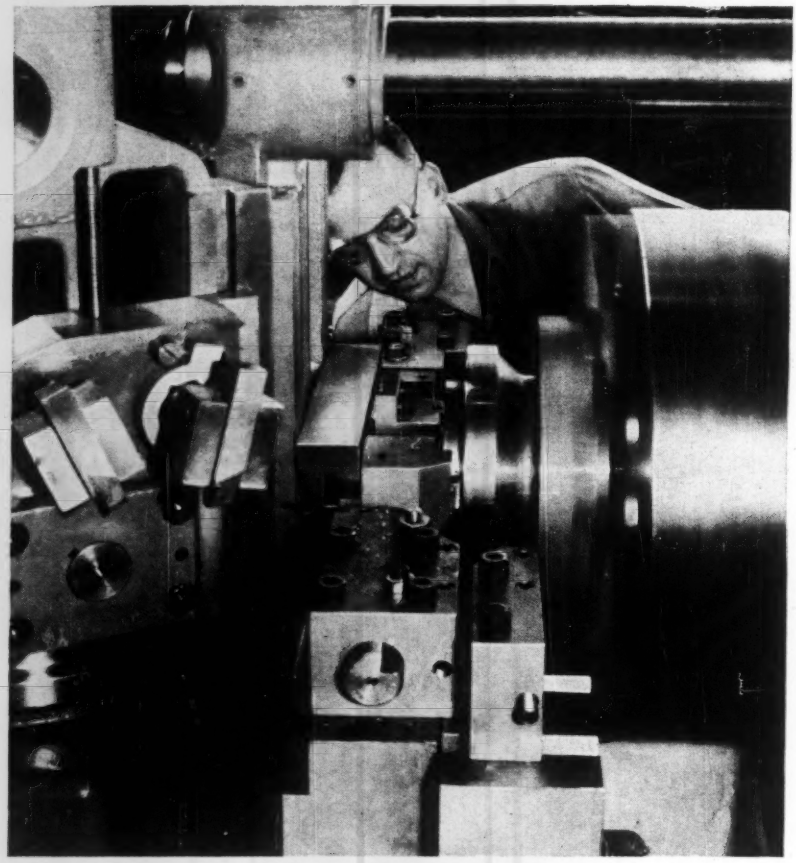

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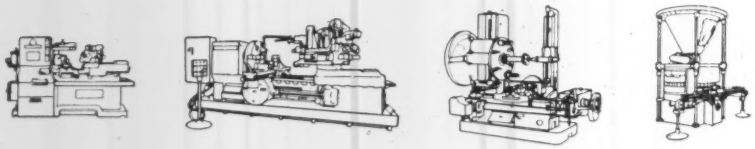

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better protective coatings, faster application, longer coating life, cheaper ingredients, or improved coating properties, such as hiding power, ease of polishing, and so on. For instance, a new synthetic primer developed to prevent corrosion of ship hulls is finding wide application in protecting structures and equipment in the particularly corrosive atmosphere of chemical plants.

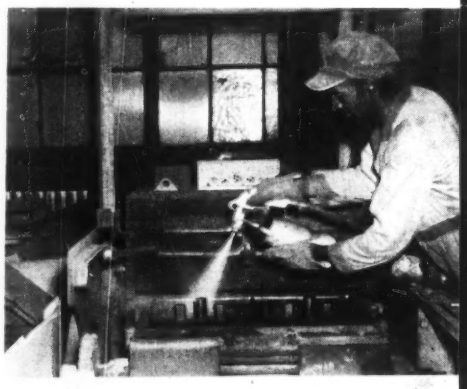
New ideas in profitable coatings can also be gained by watching the sales efforts of the coating fabricators as well as their research efforts. By marketing some of their products direct to the consumer in aerosol cans, makers of coatings are creating a new demand for improved coatings. Aerosol applicators can also be used by factory maintenance men for repairing coatings.

It's a good idea, also, to keep an eye on the new plastics and metals bred by research. Each plastic offers valuable coating possibilities, and as a result of advances in plating techniques practically any metal can be coated with another metal to produce unusual combinations of properties.

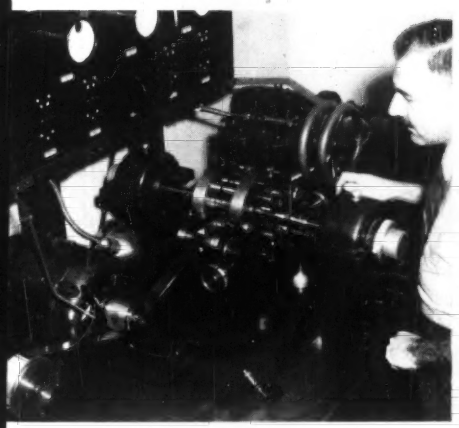
Making Coatings Unnecessary

Considerable money is also being spent to eliminate the need for certain coatings. If the base material is stainless steel, it rarely requires a protective coating (although some auto manufacturers are plating a thin coating of chromium on stainless steel trim to make it match other chrome-plated trim in *color*). If a radio cabinet can be made of plastic with integral color, it usually doesn't require a decorative paint covering.

Esso has just been sold on alumi-



Coating a steel pattern at a Cleveland shell-molding foundry with a Union Carbide "release" emulsion. Many other coatings are used in fabrication, such as photo-forming.



One way to plate a metal is to roll it with another metal in a mill, as is being done in this Rohn mill at Bell Telephone Labs.

num cans for lubricating oil, and Kraft cheese will soon be marketed in aluminum too. These cans don't require coatings like the conventional steel cans do. However, there has to be a considerable scrap recovery of the empty lube-oil cans to make them pay off.

But if the material designers are coming up with new materials that do not require coatings, coating formulators haven't been sitting still in the meanwhile. To cite one example, metallurgists at Stanford Research Institute in California have just come up with a technique for cladding cheap low-carbon steel with a thin layer of costly titanium. The new "bimetal" could compete with or surpass stainless steel in the many applications that demand high corrosion resistance. And the depressed titanium industry has plenty of thin-rolled titanium capacity.

Profit Opportunities

Obviously, coatings are a problem of such universality that they constitute a common industrial denominator. Taking advantage of new developments can help you save a production or maintenance dollar or gain a sales dollar. Sometimes coatings are the key to unusual product development, like the new vinyl-coated glass fiber screens that are now a formidable competitor to common metal mesh screening.

The value of coatings is often out of all proportion to the cost of applying them—and considering the job they can do for you at low cost, they're deserving of your company's continuous, careful attention. END

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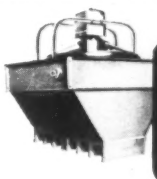

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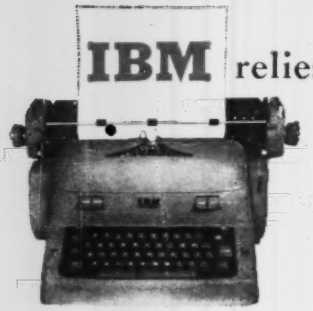

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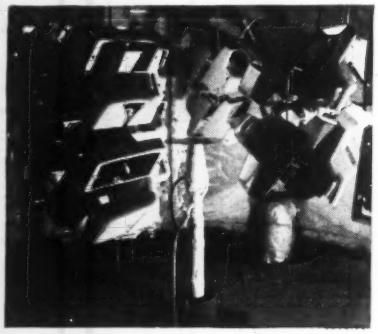

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THE RISE IN FAILURES

continued from page 47

Why, then, are more and more concerns failing? A definitive answer that categorically and absolutely catalogs all causes of failure is difficult. There are economic factors, but there are also very human factors. The problem seems to lend itself to two distinct but interrelated approaches.

One is to compile statistics; the other is to study cases. Neither method will reveal the whole story, for each complements the other.

Consider three cases included in this year's failure totals. They involved different types of enterprises: a restaurant, a steel mill, and a wholesaler of electrical supplies.

Of these, the case of the restaurant was the most interesting. The owner started business two years ago in a Western city with fancy fixtures, cuisine, and atmosphere. Part of the atmosphere consisted of what reporters described as waitresses in "short French uniforms." Whether because of the fancy chandeliers or the "short French uniforms," the place made money. Unfortunately, the owner was up to his ears in debt when he started. His plan was to have the profits take care of the debts, but somehow they never quite did. In an effort to increase his yield, he bought a second restaurant—which he financed with creditors' money. Again, the earnings could not catch up with maturities, and bankruptcy ensued. Unwise expansion has hurt many a small entrepreneur whose enthusiasm exceeded his ability to plan.

The second failure, the steel mill, was purchased by new interests some two years ago. Several million was spent to modernize the plant, and much of this new capital was borrowed through issuance of bonds. The modernization program proved to be long drawn out and costly. Delays in getting into production were followed by operating losses of more than $2 million. Because of this, working capital fell below the levels prescribed by the bond holders' indenture and the trustees filed suit.

The third failure—the electrical supplies wholesaler—was a concern whose management was getting along in years. The company's downtown location had become a serious handicap because of lack of parking facilities. Also, as the second generation took over, the first generation

continued to draw on the business. Sales declined as overhead went up. In short, this concern literally and figuratively failed to move with the times—and as so dried up.

These three cases typify only a few of the many, many causes of failure. If the causes follow some pattern, the patterns vary according to the size, the relative age, the function of the concern, and that nebulous factor, the human element.

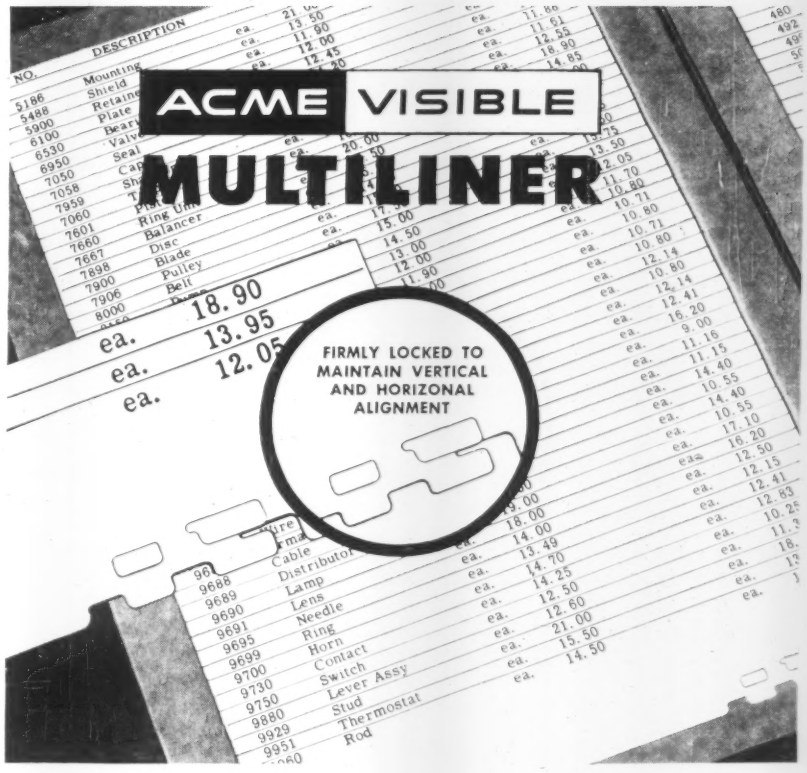
The All-Too-Human Element

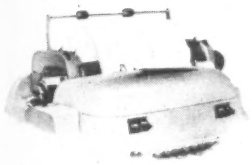
Nearly all failures reflect some element of personal weakness: human moral or physical frailty, lack of know-how, lack of adaptability, or lack of proper financial management. These are always present in some portion of the business community. What is making them more costly than ever before are (1) the competitive pressures arising from the increase in the number of new firms, (2) the ever-difficult and increasing cost-price squeeze in which all business finds itself, and (3) the ever-changing patterns in consumer demand and the corollary changes in methods of doing business.

Commercial failures on which moral lapses have a bearing are present in any economy, but they crop out more often in times when pressing competition creates strains that tempt men to take the easy way out of financial predicaments. The proportion of bankruptcies in which neglect or dishonesty has played a part seems to run fairly constant—they appear to account for some 3 to 5 per cent of failures annually.

"Acts of God" play their part, though they account for perhaps no more than 2 per cent of the toll. And among smaller concerns, uninsured or partially insured losses from fire or casualty account for a certain number of mortalities.

But in assessing the remaining 90 per cent or more of the failures, it will pay to examine in what size and type of business the failures are occurring. One important clue here is provided by studying the size of liabilities of firms at the time of failure. As a concern approaches failure, its assets become smaller, and its liabilities tend to snowball. An insolvent concern allows debts to accumulate rapidly as resources evaporate. Hence, it is not unusual to see a concern's liabilities at the time of failure mount to the point where





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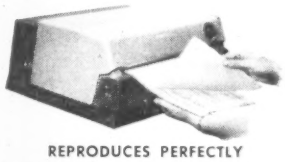

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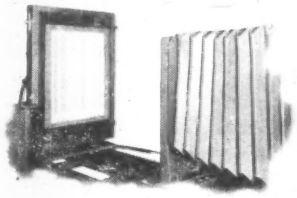

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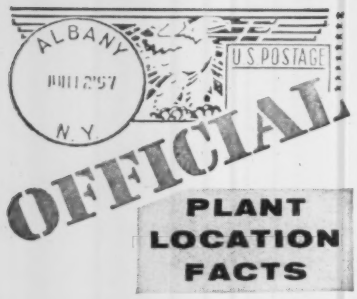

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Commissioner of Commerce

they exceed the former net worth by three to four times. A concern worth $25,000 when it was in good financial health might well owe more than $100,000 at the time of failure.

On this basis, it is apparent that the great bulk of failures occur among concerns that, in terms of capital investment, range from tiny to very small. In the first nine months of 1957 63.8 per cent of them had liabilities below $25,000; and 91.1 per cent owed less than $100,000.

To argue that these figures prove that failures are the result of lack of capital is to ignore the main point. More than 50 per cent of all failures are among relatively new concerns whose primary lack is experience and business know-how. The operator of a gasoline service station does not fail for want of capital. He is likely to fail because of a poor location, or an overly expensive lease, or lack of mechanical aptitude, or because he doesn't know how to serve the public, or because of unwillingness to put in the necessary hours.

Business inexperience appears to be one of the most serious factors contributing to business failure. Throughout the past six years, a fairly constant 57 to 59 per cent of all failures have been among concerns not more than five years old.

Small Volume, Big Overhead

In the very small concern, the owner must often withdraw a large percentage of the income if he is to make a livelihood. Among small retailers particularly, surveys of typical operating costs indicate that as much as 10 per cent of the sales income goes to support the proprietor. A retailer doing an annual volume of $50,000 may draw $5,000 or so to live, and be hard put to go below that figure in the event of a sudden drop in sales. The larger the retail operation, the smaller the percentage of fixed expense management draws. In the retail lumber business, for instance, the ratio of management salaries to sales among yards with annual sales over $100,000 is half as large as for yards whose annual volume is less than $100,000. The small business, in other words, is less flexible than the larger company in tailoring expenses to sales.

But many other factors affect the small business. An examination of 141 failures that occurred among retailers in one typical week in 1957 shows more than 25 different causes of failure. They included increased family expenses due to ill health, starting out with too much borrowed money, the heavy expense of moving to a new location, trying to grow too fast, lack of adequate financial records, underestimating costs of doing business, losses in training new personnel, overestimating inventory requirements, excessive advertising costs, under-insured losses from burglaries and fires, inadequate parking facilities, and keen competition. Finally, there was simply the question of inadequate sales resulting in operating losses.

Lessons of Inexperience

New manufacturers are frequently vulnerable. In case after case, losses are sustained in developing the product—often accompanied by heavy returns from customers because of product faults. Inexperience with a new line affects even older manufacturers adversely—for example, the coat and suit manufacturer who went into a better quality line but underpriced his finished product. Or the concern that bought out a division of another company to achieve diversification and was unable to keep production costs in line while learning to produce and sell the product. Then there was the successful auto dealer who bought out a shoe factory and took on government contracts. He failed within a year.

Inexperience is proving especially fatal in the building construction trades. The number of contractors and subcontractors has doubled since 1951. Many of the newcomers are artisans who know how to put up a house or a commercial building but are unfamiliar with the financial aspects of managing a business. Many are willing to work for little or no profit to obtain a foothold. Many suffer from inadequate bookkeeping and do not know how to calculate indirect overhead. Meanwhile, the more established contractors, with improved equipment and the resources to handle larger volume than ever before, drive down bid prices at a time when material costs are rising. Building contractors who ten years ago would have insisted on a bid price 20 per cent in excess of labor and material costs are bidding today at prices only 10 per cent and sometimes only 5 per cent above such costs. And many are taking on

far more work than they can finance. An unexpected delay on a job eats into their capital, and they sag under the strain. The fact is that failures in the construction industries now account for 15 per cent of all failures. In 1940, they accounted for 6 per cent.

What factors other than inexperience contribute to failures? Let us again review the mortality rate for retailers, where more than 50 per cent of the failures are occurring. Today, we are in the throes of a revolution in distribution. Many retailers are bypassing the wholesaler. Suburban shopping centers compete with the downtown merchant and with other shopping centers. Parking is a new hazard. Discount houses pioneer in new methods of cutting costs. Grocery chains are diversifying—selling unrelated items such as hosiery, work clothes, even appliances. These conditions work to narrow operating margins at a time when the smaller, specialized merchant is fighting rising costs. These are changes dictated by progress and prosperity, but in the meantime adaptation to change takes its toll.

Hazardous Retail Lines

The highest failure rates among retailers presently are among retailers of infants' and children's wear, women's ready-to-wear, men's wear, sporting goods, furniture, and appliances. These are lines where the highest merchandising skill is needed and where the shifting sands of consumer preferences can result in costly mistakes. Failures are also rising rather rapidly among retailers of lumber and building materials.

On the other hand, failures are relatively low among retailers of auto accessories, drugs, hardware, among eating and drinking places, and, surprisingly, among automobile dealers. The last group has learned to adapt itself to slashes of 40 to 50 per cent from prewar gross profit margins. In general, it seems that retail failures are lowest in lines where the retailer can offer a generous helping of personalized service to supplement his merchandise.

Among manufacturers, failures are highest relatively in the furniture, electrical machinery, shoe, apparel, transportation equipment, and metals industries.

Failures of older, medium- and large-size companies appear to represent from 8 to 9 per cent of all failures. Studies lead to the conclusion that as concerns grow larger, the causes of failure shift—the emphasis is less on the struggle for sales, more on the problems of managing people and finances. In this group, causes of failure include such varied factors as poor buying, losses from product experimentation, dissension among stockholders, inventory and credit losses, inability to manage costs, and overexpansion.

Behind the Figures

Why have failures been increasing? It is not entirely clear that all the causes of failure are known, or for that matter, that some of the concerns that fail know why themselves.

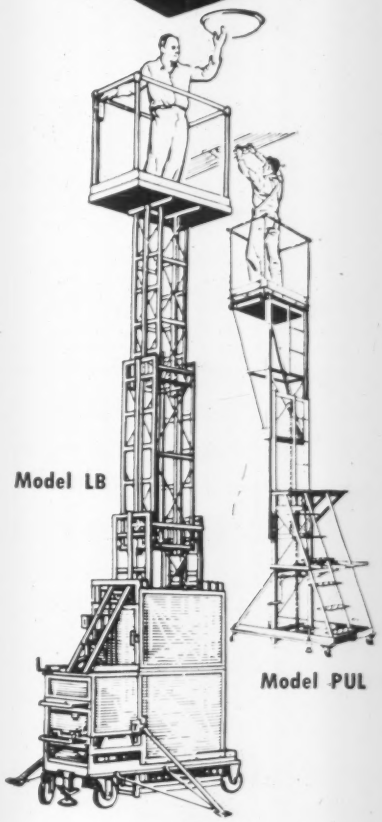
Business failures are like automobile accidents. Some accidents occur because of bad weather, just as failures increase in bad times. But cars are getting faster, and some accidents happen because of speed. Likewise, some failures are due to the faster pace of business. Some wrecks occur because of faulty equipment—and so do some failures. Some accidents are unavoidable—and so, perhaps, are some of the failures.

After all the factors are boiled down, however, the majority of the accidents can be attributed to deficiencies in the drivers, and the fact that safety devices have not kept pace with horsepower. What we need to do is teach the driver how to handle his vehicle better, how to recognize his limitations, and how to obey the rules of the road.

Similarly, the root cause of business failure is the individual business man who refuses to recognize hazards—the hazards of improper bookkeeping, improper merchandising, improper understanding of costs, inventory speculation, poor credit practice, excessive salaries and dividends, improper financing methods.

Among the latter is over-borrowing to finance expansion. Somewhere along the line a certain complacency has crept in about over-borrowing. There are concerns that have committed five and even ten years' earnings for repayment of loans. One such company has several classes of deferred debt, and is using short-term financing at expensive rates for working capital. It will require several years of steady earnings to pay off these loans, yet the concern is already planning another factory.

90% of overhead servicing can be done faster and safer with these ECONOMY Hi-Reach Telescopers!



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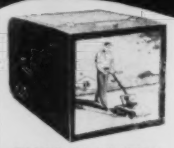

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THE INSIDE STORY...

Most American families respond each year to a letter which contains Christmas Seals and requests a contribution to fight tuberculosis year-round.
This makes possible activities which have helped cut the TB death rate 95% *yet tuberculosis still kills more people than all other infectious diseases combined.*
So use Christmas Seals from now 'til Christmas and remember to answer the letter, please.

Buy and Use Christmas Seals

It is to be hoped that our so-called "built in" anti-depression barriers justify our sense of security regarding fluctuations in the business cycle. But we have no guarantees that each year will be more profitable automatically than the one preceding. In the span of ten years, we have had the "recession of 1949," and the "adjustment of 1954." This seventeen-year-old boom of ours has a right to become a little tired once in a while.

So perhaps, in reviewing failures, there is need to emphasize their positive lessons. A little sickness now and then reminds us that there are rules of good living. Some failures will always occur.

For many, however, failures will serve as a reminder that the speed and tempo of business require more knowledge, better managerial equipment. We are a long time removed from the leisurely days when a Vermont storekeeper could warn a customer in panic, "Hey, don't buy all those pencils. If you do, I'll have to get some more."

To the individual business man who fails, failure is akin to personal tragedy, but the way is often open for him to try again. To the creditor, commercial failures are a vexation, but the losses have been moderate and can be absorbed. To the detached business analyst, failures are a symptom of business tensions—but more like a headache than a disease.

Challenge to Suppliers

But what about the manufacturer and the distributor? How shall he view the loss of a customer account which has failed?

The billions of dollars industry has spent for new plants and equipment cause recurrence of a once-familiar question, "Can distribution keep pace with productive capacity?" Industry has ample reason to drive aggressively for maximum distribution. Every small manufacturer who processes material produced by industry and every wholesaler and retailer is part of an army fighting the battle of distribution. Every borderline account which falls in this battle is a regrettable casualty.

Hence, rising business failures are important for the notable challenge they present to those who are supplying these channels of distribution. This challenge may very well be the most important of the various aspects of business failure. For there is a real need for credit and financial departments and sales and marketing management of large supplier concerns to help their borderline customers by maintaining more intimate contact with them and by educating them in the principles of merchandising and management.

Some industrial companies are doing this already. One such concern, alarmed by the lack of record keeping, the lack of profitability, and the general attrition among distributors in its industry, has even gone so far as to produce and distribute a motion picture showing how to improve merchandising practices and business methods in the trade.

The continuing rise in the business failure curve argues strongly that the time is near when suppliers, as a matter of self-interest, will be taking steps to pass on to their smaller business customers not only what they themselves have learned about the principles of progressive merchandising, enlightened management, and sound financing, but due respect for the hazards of the day. END

PERSONNEL OPINION

You can't keep a good man down.
The times I have heard this are myriad.
In fact as employers know,
You can't keep a good man, period.

RICHARD ARMOUR

CHRISTMAS PARTIES

continued from page 85

favored a somewhat earlier date, and holding the party on the employees' own time. Sixty-one per cent expected to start the festivities after working hours, either in the evening (50 per cent) or on the week-end (11 per cent). An even larger proportion of the companies surveyed by Dartnell, 70 per cent, kept the parties off company time, and gave them any time from December 15 on. There was one man, however, who cautioned against a too-early date: "If you have it too soon before the holiday," he said, "employees lose the work spirit in favor of the Christmas spirit."

Who pays for the parties? In most cases, according to the surveys, it is the employer who picks up the check: Eighty per cent of the companies covered by Dartnell, and two out of three of the companies in the NOMA survey, paid the full amount. Only one-sixth of the NOMA companies expect the employees to bear the full expense, though a sizable group (16 per cent) ask them to share in it.

The cost of all this organized good cheer is by no means trifling. The Dartnell survey indicated that for more than 50 per cent of the companies it ranged from $5 to $12 a head—without taking into consideration the time spent in planning and making arrangements, or that wasted by employees who became imbued with Christmas spirit instead of work spirit too long before the holiday.

How do employees themselves feel about Christmas parties? That would seem a sensible subject for some research—and NOMA actually did query employees in one recent survey. It found that the workers, like the executives, in general favored Christmas parties—but not by any overwhelming majority. Sixty per cent of all employees liked the parties, and 40 per cent did not. The proportion of those in favor was slightly higher among the women (63 per cent) than among the men (59 per cent).

The main attraction of the party for employees, it seems, is the opportunity for social contacts with each other and with their supervisors. A few echoed management in stating that the celebration "builds morale." Some who disliked parties objected to the drinking, some had other things to do, and a few complained that there was "too much familiarity."

Head of his class—

but a problem in arithmetic

Educating, feeding and clothing children present a problem in financial arithmetic for any family these days . . . a problem compounded when unforeseen emergencies call for extra dollars.

Helping to supply those dollars — the dollars to meet family needs or emergencies — is the big job that the Beneficial Finance System has been doing for 43 years.

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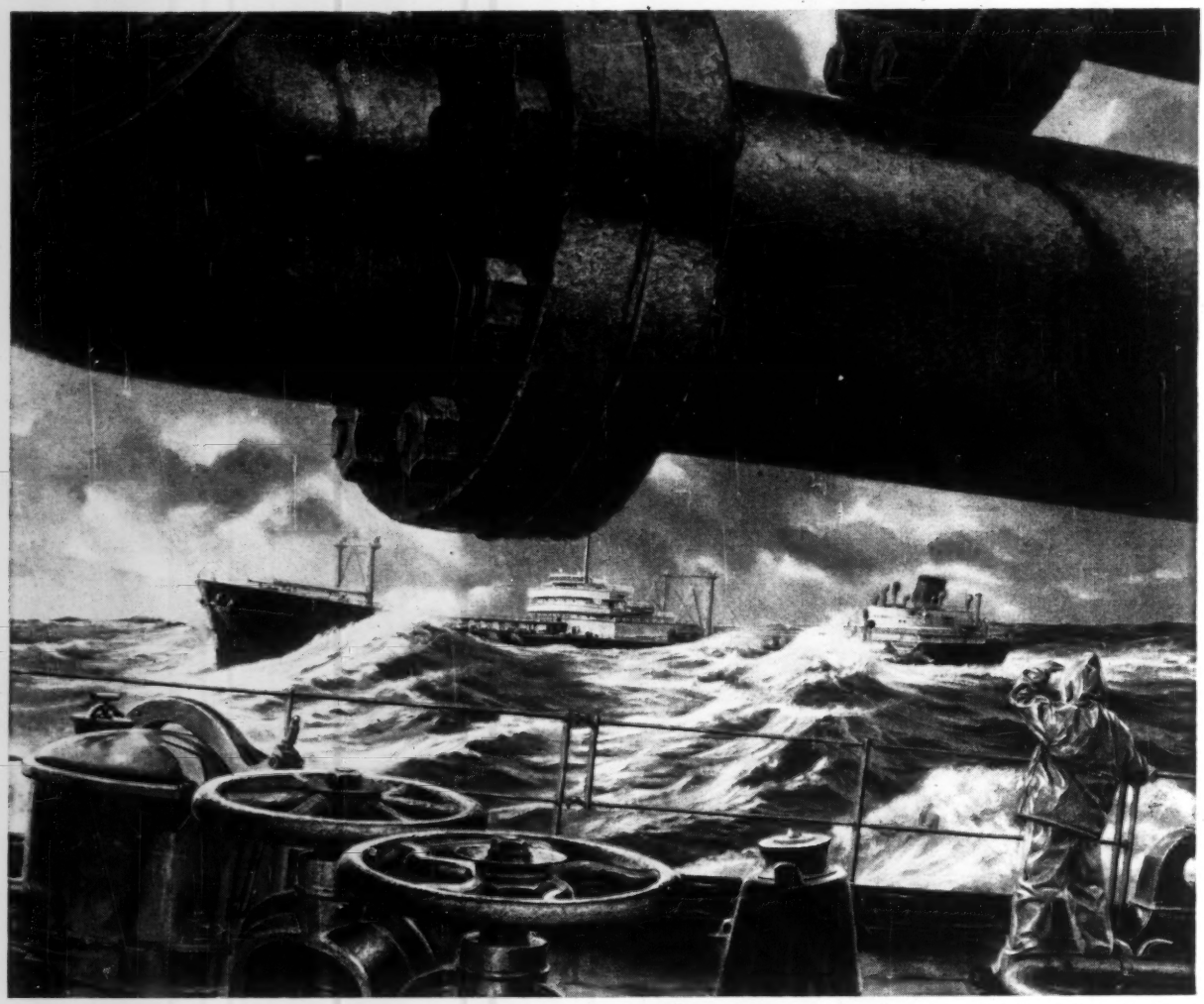

Today, many of the newest supertankers carry pipe and fittings of ductile iron.

Ductile Iron . . . another Inco Research first

Over five miles of ductile iron pipe going into many of today's supertankers

A deep sea tanker takes many a heavy beating when waves are rough.

With each pitch and roll, she has to *weave*. And her five or more miles of piping have to weave with her.

If it is ductile iron piping, every pipe length *gives* without break or leak.

Bends without breaking

Ductile iron is not only ductile, but also tough. And resistant to the corrosive action of sea water and sulfur laden crude oil.

In some tankers, gray cast iron pipe resists corrosion for ten years or more. Sometimes, though, it's cracked and broken by the pounding of heavy seas that overtax its strength.

In other tankers, steel pipe outrides such storms without damage. But it corrodes so badly it may have to be replaced every three or four years when handling sour crudes.

Ductile iron pipe, tanker owners find, combines the low cost and demonstrated corrosion resistance of cast iron with the tough strength of carbon steel.

So today, many of the newest tankers carry pipe and fittings of ductile iron.

Ductile Iron also under city streets

The properties that prove ductile iron pipe suitable for tankers also commend it to municipal and utility engineers. So this shock-and-corrosion resisting pipe is used for water and gas mains. It may soon be under the streets in your town.

Ductile iron is a material of many varied uses – from plowshares to jet plane parts. And cost-conscious industry is constantly finding new ways to use this versatile money-saving, Inco-developed material.

To find out how useful ductile iron can be, write for a free copy of "Ductile Iron Digest," to Dept. 227F

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INSIDE INDUSTRY

New Methods, Materials, and Equipment

- *Why Stainless "Cracks Up"*
- *Armed Forces Hunt New Products*
- *Plastics You Can Wash Away*

Crystals that crack steel

Study of half-millionth-inch thick chromium oxide crystals (see photo below) that grow out of the surface of stainless steel may help lick industry's $5 billion annual corrosion bill. Dr. Earl A. Gulbrandsen of Westinghouse Research Laboratories in Pittsburgh believes that the tiny "platelets" may explain a destructive failure of the metal known as "stress-corrosion cracking."

Even such mildly corrosive substances as steam or perspiration can trigger this phenomenon in internally stressed stainless, although chemical corrosion is the most common villain. The stresses are left in the metal at the time of manufacture. Stainless steel chemical piping, turbine blades, and even cooking utensils have been known to fail by stress corrosion.

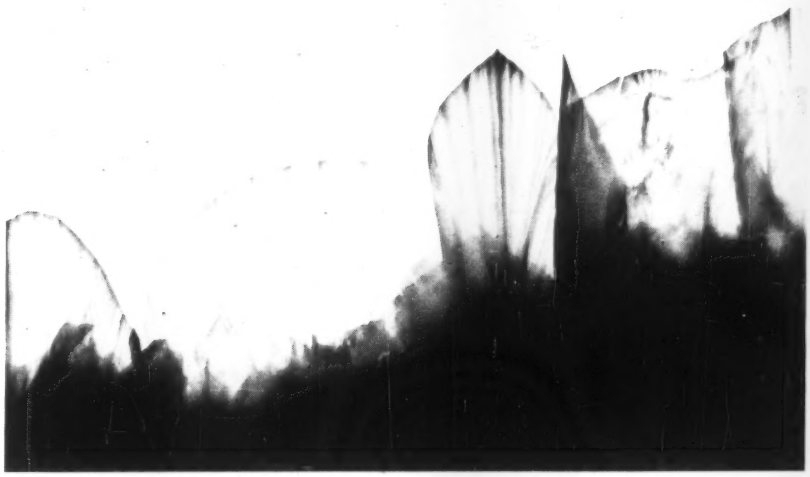
Dr. Gulbrandsen recently advanced the theory that as the tiny platelets grow, minute crevices are produced in the surface of the steel. Concentration of stress at the base of the crevices then leads to eventual failure of the metal.

Using an electron microscope, Dr. Gulbrandsen and his associates have been able to determine the dimensions and composition of the crystals, which were produced under controlled conditions. They also produced billions of oxide "whiskers" on the surface of stainless by subjecting samples to an atmosphere of water vapor in very pure oxygen.

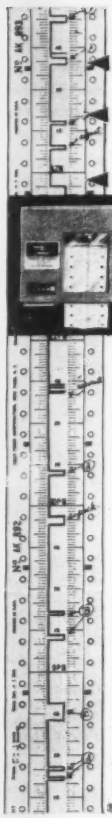
Dr. Gulbrandsen reported his investigation at the recent Second World Metallurgical Congress in Chicago.

Inventions wanted

A listing of inventions sought by the Armed Forces offers some interesting potential sales opportunities to enterprising manufacturers. Published by the National Inventors Council and available free from the U.S. Department of Commerce, *Inventions Wanted by the Armed*



Magnified 9,000 times, these crystals erupting from the surface of stainless steel may help explain a common type of metal failure that's known as stress-corrosion cracking.



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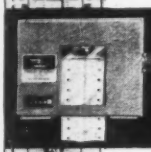

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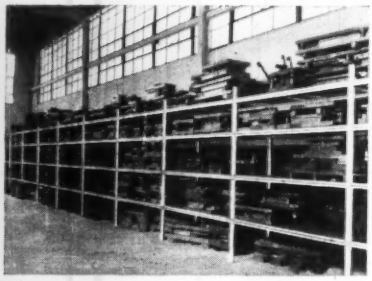

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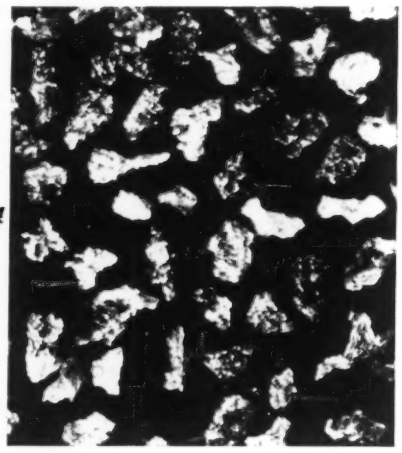


WHAT A GRIND! Only two years after their initial development, man-made diamonds like those shown in this micrograph are being marketed by General Electric for use in sharpening tools and other industrial grinding problems. Although they still cost more than natural industrial diamonds, improved techniques and increased production should bring their cost down.

Forces covers ten subjects from "Aeronautics, Missiles and Space Travel" to "'Blue Sky' Problems."

It is entirely possible that many products now available or being developed could, if modified, meet the specs for some of these unsolved military hardware problems.

Among the numerous items sought:

- A lubricant or corrosion-resistant coating that will perform adequately in the presence of liquid or gaseous fluorine
- A non-destructive method of measuring the adhesion of a plated metal to the base metal
- Methods of improving the efficiency or output of reciprocating engines
- A method of sealing metal containers similar to cold welding, but capable of being used to join thicker sheet metal than is now possible.

No special forms are required to submit a solution or material to the Council (Washington 25, D.C.).

Tough plastics dissolve in water

A new class of plastics that dissolve in water offers some unusual possibilities for cloth-weaving, packaging, die-casting, cosmetics, and pharmaceuticals. Called *Polyox*, the new giant-molecule resin resists water vapor when in dry form.

Already in pilot-plant production, Polyox resins are made in five grades by Union Carbide Chemicals Co.,

New York. Now available in small quantities for $1.50 per pound, Polyox should drop to 35 cents a pound in large-scale production.

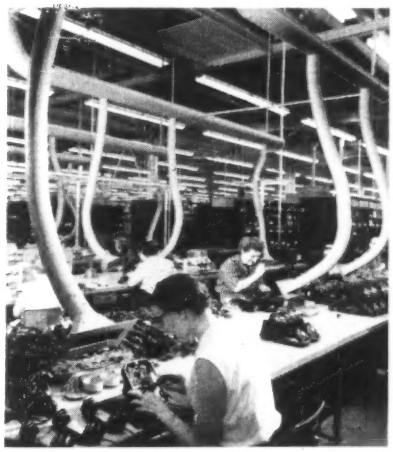
In textile weaving, one form of Polyox has already been tested as a replacement for starch in sizing fibers, a coating essential in the weaving process. At present, weaving rooms have to be kept artificially at 95 per cent humidity in order to make the starch plastic. A Polyox coating is pliable at normal humidity. And, unlike starch, it doesn't need to be taken out of the water after the washing process is completed. Because it doesn't absorb oxygen from water, it doesn't classify as a pollutant, and so may be discharged safely into neighboring bodies of water.

Some suggested packaging applications:

- Dry pigments, heat-sealed in Polyox in measured amounts, can be added to paint solvents, package and all. In a few seconds, the Polyox will dissolve away, releasing the pigment into the paint.
- Similarly, frozen or dried fruits and vegetables, packaged in Polyox, could be dropped into boiling water without unwrapping.
- Polyox could also be used as the binder in a detergent bar that would resemble an ordinary soap bar.

In die-casting, Polyox might form the core for hollow sections of complicated parts. After the part is cast, the plastic could be dissolved out.

—M. M.



BANISH FUMES These gooseneck tubes draw heat and fumes generated in soldering away from work tables to a central exhaust. Installation shown is at Automatic Electric Company's new Northlake, Ill., factory, designed by the Austin Company.

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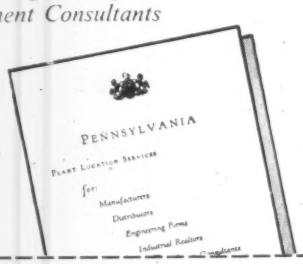

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OUR ECONOMIC RACE

continued from page 39

ple who once lived on the land have been moved to cities and gone to work in industry or other urban occupations. A vast expansion of education has produced millions of skilled workers as well as large numbers of capable scientists, engineers, and technicians. Medical services have been greatly expanded and much of the progress of scientific medicine in recent decades has been put into practical application. Vast capital investments have been made, and thousands of factories, producing everything from buttons and books to rocket fuels and tritium, have been built.

If we ignore the tremendous significance of this achievement, we do so at our peril. Before October 5, some people may have been able to justify complacency on the basis of such primitive myths as the notion that Communism is "against human nature" and must therefore collapse of its own inefficiency and iniquity. Today such conceptions must give way before facts, however emotionally unpleasant the facts may be. We cannot afford to forget, either, that we have no reason to suppose Soviet industrial and technological progress has reached its historic peak. Rather it is likely that there will be further Russian progress—and therefore further, tougher competition for us.

In short, the Soviet system has proved its right to be considered a competitor of our own system. It has shown that it is one way by which men can change their environment, utilize the achievements of modern science and technology, and achieve material progress. There are no inherent limits to production under the Soviet system, and the mere fact that the Soviet Union today produces only about half as much steel as we do is no sign that it can never equal or surpass us in the production of steel or other commodities.

The Soviet Union is rich in resources. Its people are numerous and as talented, on the average, as other large assemblages of human beings. There is no reason to believe that Soviet material progress over the past four decades will not continue.

All this, though we must in honesty and in our own self-interest grant it, does nothing to prove which system is the better one for human

in the Arctic...

or on the Equator...

Armco Steel Buildings shrug off the world's worst weather

Year after year, under the toughest conditions on the globe, Armco Steel Buildings are proving that dollar for dollar you can't put up a better building. Armco Buildings are available in more than 5000 sizes and with a variety of accessories to meet your exact needs.

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This exceptional weathertightness reduces insulation requirements to a minimum. When insulation is desired, it can be put in easily and economically.

Every year, from Main Street stores to the largest industrial plants, you're seeing more and more Armco Steel Buildings. The reason—they give you *exactly* what you want at a price you want to pay.

If you are planning a new building be sure to get the full story on Armco Steel Buildings. *Call Western Union and ask for Operator 25* or send the coupon below.

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ARMCO STEEL BUILDINGS

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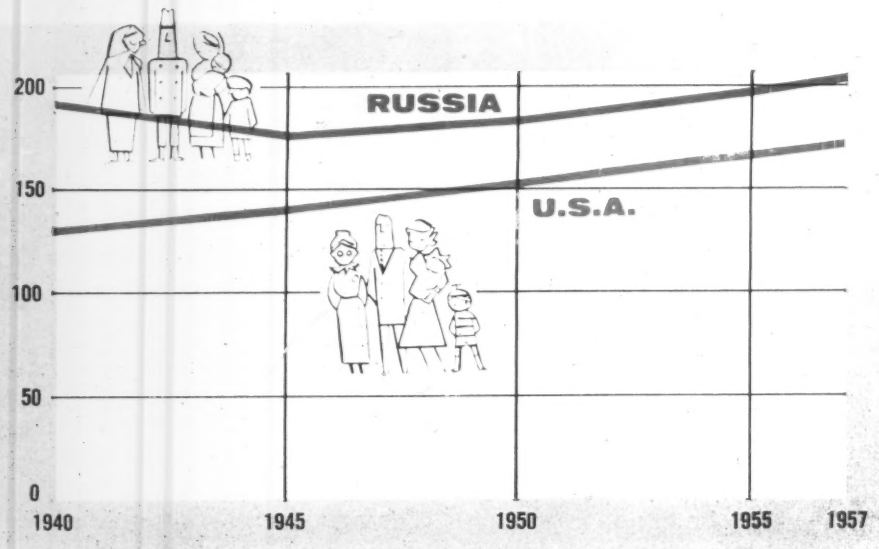
The economic race between Soviet

1 THE **POPULATION GAP** HAS NARROWED SIGNIFICANTLY **SINCE 1940**

(SCALE IN MILLIONS OF PEOPLE)



2 **RUSSIA EMPLOYS MORE** IN **BASIC INDUSTRIES** (1955 DATA – IN MILLIONS)

MANUFACTURING, MINING AND UTILITIES

U.S.A. 14.0

U.S.S.R. 17.4

CONSTRUCTION

U.S.A. 2.8

U.S.S.R. 3.2

TRANSPORTATION

U.S.A. 2.7

U.S.S.R. 5.0

WHOLESALE AND RETAIL

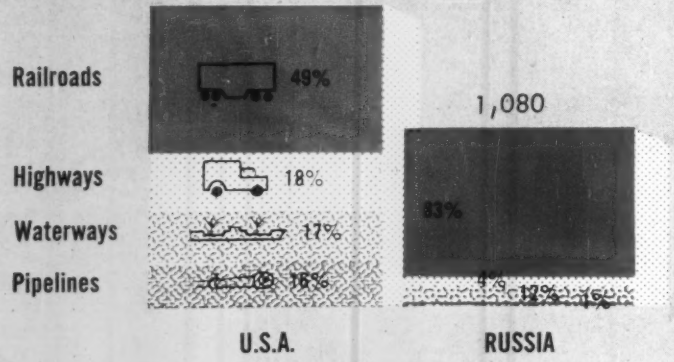
U.S.A. 10.8

U.S.S.R. 2.9

3 **FREIGHT TRANSPORTATION:** *we have more freight traffic..... but Russian railroad freight traffic is heavier*

YEAR: 1955

1,840 (Freight turnover in billion metric ton–kilometers)



1954

U.S.A. 802

U.S.S.R. 857

1955

U.S.A. 911

U.S.S.R. 971

1956

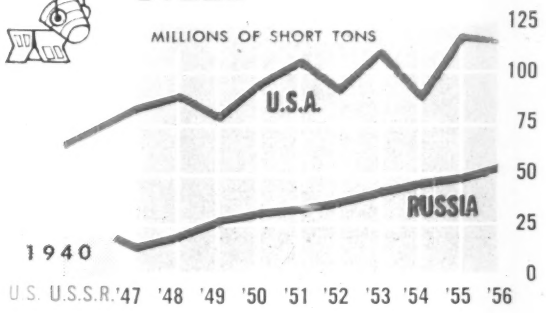
U.S.A. 944

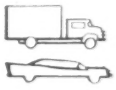
U.S.S.R. 1076

Russia and the United States

4 **BASIC INDUSTRIES:** *while U.S. production continues to rise despite fluctuations, SOVIET RUSSIA has moved steadily upward*

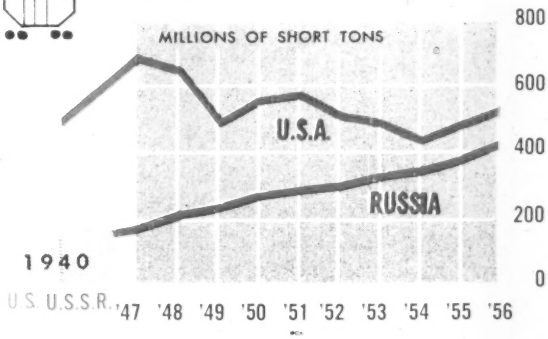
STEEL





MOTOR VEHICLES

COAL



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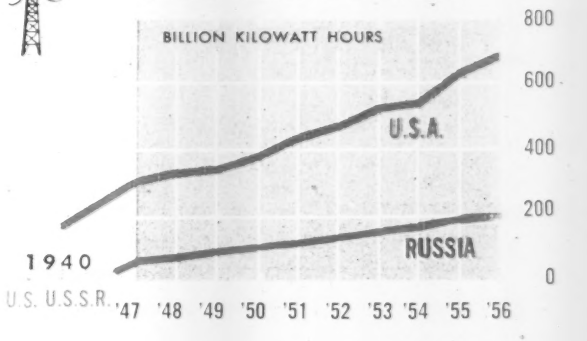
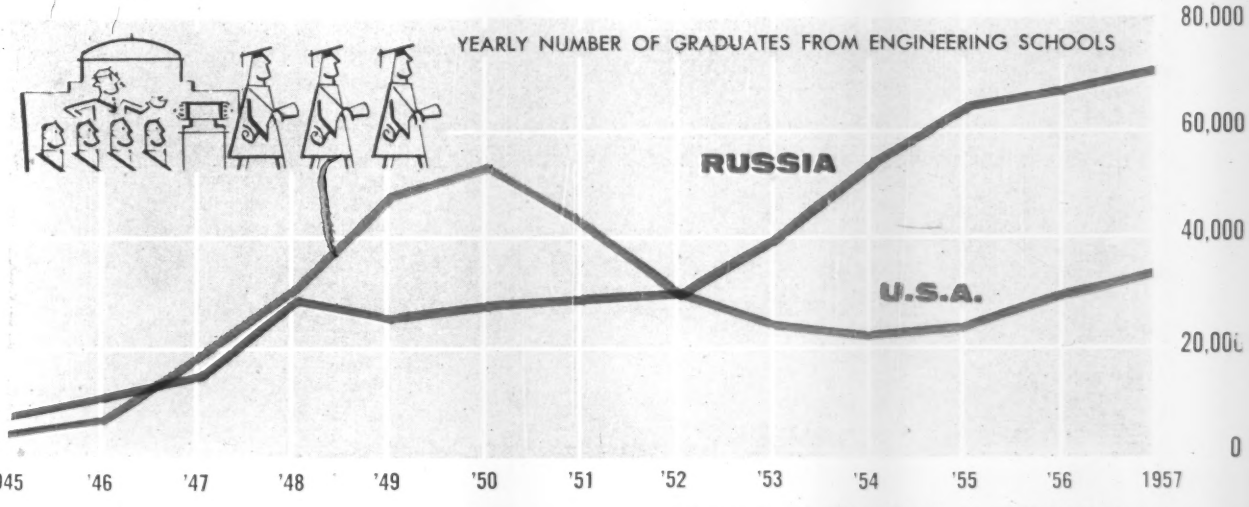


5 *Russia surges ahead of us in the race to produce* **ENGINEERS**



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beings or indicate which will win the present world competition. The Soviet system has important weaknesses as well as strengths, and we have good reasons for thinking that our system is the better.

Bad Signs for the Soviets

That the Soviet system has important weaknesses is obvious enough. Since Stalin's death the world has seen the East German uprising of June 1953, the Poznan riots of June 1956 and the peaceful Polish revolution of October 1956, and the Hungarian revolution of October and November, 1956. During 1956, the relaxation of censorship in the Soviet Union produced a remarkable literature of protest which paints a picture of life under Soviet rule that is just as unflattering, taken as a whole, as the one Western propagandists have disseminated. In Communist China, a similar relaxation of censorship in the first half of this year brought forth such a devastating barrage of criticism that the clamps had to be hurriedly put on again.

All these symptoms of unrest under Communism point to a basic truth: The Soviet system of economic development imposes a set of extremely high costs upon those who live under this system. Economic advance under Soviet conditions, therefore, takes place only against tremendous, though usually covert, resistance.

A few examples of these costs are illuminating: The Soviet Union's rulers thought their country rich enough to afford to create an earth satellite and send it into the skies. Yet only a few months earlier the same regime had had to acknowledge publicly the existence of a major housing shortage, which at best could be alleviated only after another ten or twelve years. The Soviet Union operates the world's fastest commercial air transports, the jet-powered TU-104's, and now has the biggest passenger airliner. But much of Russia's transportation depends on dirt roads which become impassable quagmires after heavy rains. The Soviet Union produces half as much steel as we do and its factories can produce the most complex machinery. Yet Soviet industry produces only half as many bicycles as we produce passenger cars.

The Soviet Union owes its many

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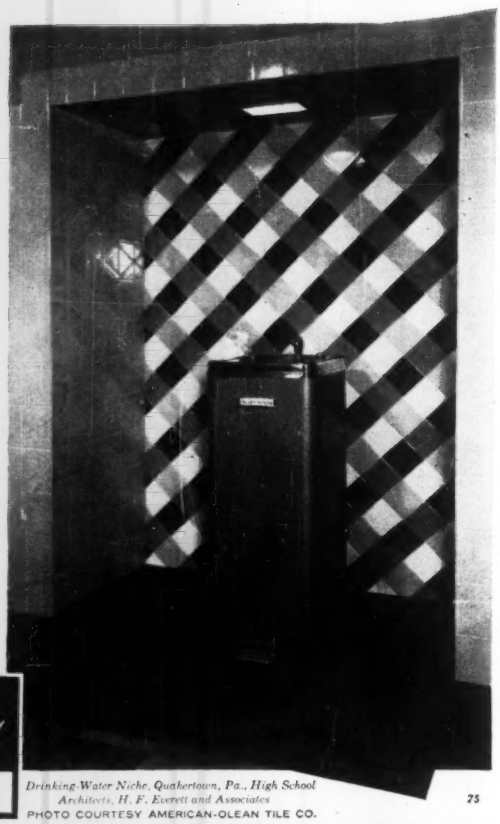

Drinking-Water Niche, Quakertown, Pa., High School
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75

Wagner Sangamo

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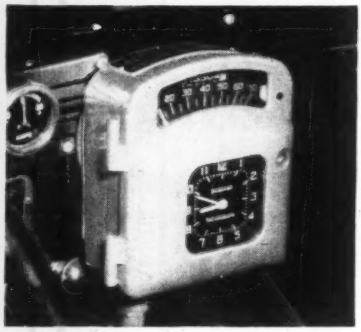

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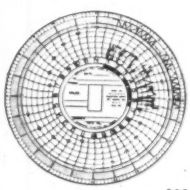


SS7-6

remarkable accomplishments – the rapid development of heavy industry, its startlingly rapid progress in modern weapons development, and the like—to the fact that it is a dictatorship. It allows no strikes for higher wages or other concessions. It does not ask its people how much they want to pay in taxes. If inflation occurs—as it has several times in Soviet history—the government can simply wipe out the old currency or repudiate the government debt. With full power over the resources of their vast country, the Soviet rulers have been able to concentrate these resources upon the things they have thought important: a high rate of investment in heavy industry, speedy growth of military power, showy scientific feats like the satellite. And the Soviet people have had to pay the bill.

They have paid with a low standard of living, which has risen far less rapidly than the country's resources permitted, with long hours of work, with deprivation of free speech and other basic human rights. The outside world sees the showy accomplishments. The Soviet people feel on their own skins the deprivations these accomplishments require.

An Inefficient Economy

From the point of view of the ordinary Russian, the Soviet economy is inherently irrational. How many Soviet citizens would have voted to send up a space satellite if they understood that this would mean foregoing a significant quantity of new housing—as, of course, it did? Moreover, the Soviet system is inefficient. Even with the best will in the world, the central planners can never know enough, and they make costly mistakes.

One recent example may illustrate this. The average cost of producing a ton of iron in Soviet plants attached to the Ministry of Ferrous Metallurgy is 292 rubles. Yet at the two nearest mills—located at Cherepovets in Northern European Russia and at Rustavi in Georgia—the figures last year were 613 rubles and 488 rubles, respectively. It is no accident that Khrushchev last Spring decentralized Soviet economic administration, and that in Yugoslavia and Poland Communist economists are trying to work out decentralized, market-oriented economic systems to replace the Soviet model.

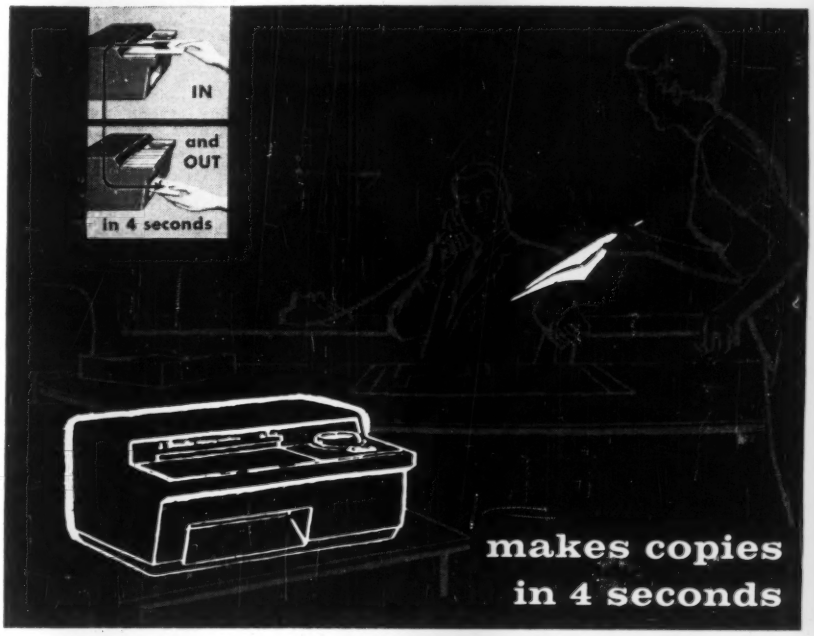
It seems safe to predict that no modern, educated industrial population will go on indefinitely suffering the costs, irrationalities, and inefficiencies which Soviet economic development has meant for the Soviet people. Events in the Soviet Union since Stalin died point strongly to this conclusion. During those five years, Soviet leaders have continuously had to contend with political unrest which Stalinist sacrifices had created in Russia.

Khrushchev Gives Ground

There is surely no accident about the following pattern: The first post-Stalinist economic policy was enunciated by Premier Georgi M. Malenkov in August 1953. It was an explicit promise that a great increase would be made in consumer goods. Nikita Khrushchev succeeded in scrapping that program in early 1955, but over these past two years he has had to pile on concession after concession: higher minimum wages, higher pensions, shorter working hours, a promise of greatly increased construction of new housing, and a promise that by 1960 or 1961 the average Soviet citizen will have as much milk, butter, and meat as the average American. We know from the admission of Mao Tse-Tung that the Hungarian Revolution frightened the Chinese Communist leadership. Can there be any doubt that it also frightened the Soviet leadership?

We know now that the Soviet leadership has actually been wrestling with a major economic crisis all this past year, a crisis which will not be solved even by a Soviet rocket landing on the moon. The admission that this crisis exists came in the announcement last September 26 that the much-publicized Sixth Five-Year Plan—adopted only 19 months earlier—was being scrapped, and that a new Seven-Year Plan to cover the years 1959–1965 was in the course of being drafted.

From Soviet sources we now know the full magnitude of the crisis exploded in the faces of the Soviet leaders when the Communist party's Central Committee met in Moscow last December. The Committee was faced with demands on the Soviet economy for increased domestic consumption, high military preparedness, aid to other nations, and planned capital investment that far exceeded the available resources.



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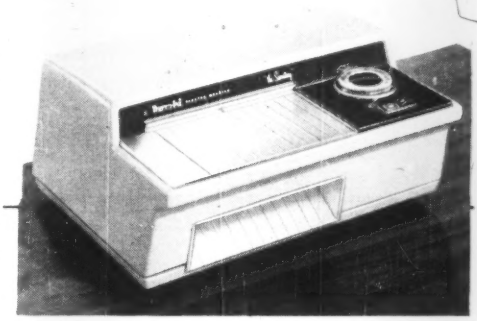

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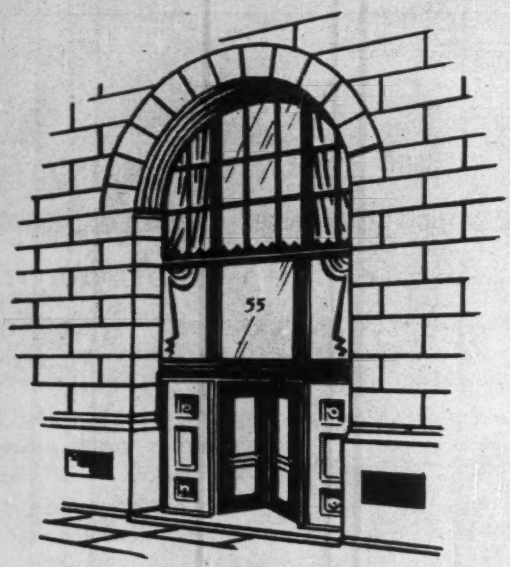

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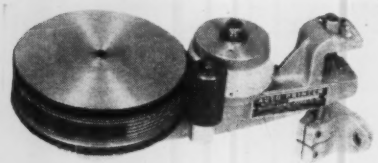

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For 1957 alone, the Soviet leaders found themselves confronted by capital investment allocation needs of 240 billion rubles—40 per cent more than had been allocated. Similarly, for the entire period of the Sixth Five-Year Plan, 1956 to 1960, capital investment needs were about 1,360 billion rubles as against the original estimate of 990 billion rubles. These needs had to be met if the production goals set for 1960 were to be achieved.

This over-extended position has been the key fact about the Soviet economy this past year. While boasting publicly about their successes and promising new marvels for the future, behind the scenes the Soviet leaders have been quietly cutting back, particularly in the area of capital investment. It is now clear that the Soviet goals for 1960 in the field of industrial production will not be achieved, and an historic slowdown in the rate of Soviet industrial advance seems probable. Important capital investment projects that should have been completed in 1959 or 1960 have now been either cancelled or slowed down so that they will not be completed until after 1960. Barring a serious depression in the U.S., the time when the Soviet Union may expect to equal our industrial production has once again been pushed further into the future. Khrushchev's recent announcement of very ambitious production goals for 1972 cannot hide this fact.

That it was capital investment, not consumption, which had to take the cutback is perhaps the most significant fact about these developments. From 1928 to the mid-1930's, Stalin introduced rationing and slashed per capita consumption drastically to raise the capital he needed for his ambitious plans. Stalin's successors today dare not employ such Draconian measures. In that fact we have a vitally significant index to the changed situation within the USSR.

No Cause for Complacency

Against this background, let us take a second look at the sputniks and what they mean for the world in general and U.S. business in particular. In the past, one of the most ominous aspects of American-Soviet economic competition has been the extraordinarily rapid rise of Soviet industrial production. It was this rise which Soviet propaganda empha-

sized. But for the next few years further sensational jumps in Soviet production are most unlikely. The 3 per cent gain in pig iron output and the 4 per cent gain in steel output which were registered during the first half of 1957, as against the same period last year, are not the stuff of which exciting propaganda is made. Instead of sharply increased production, therefore, the Soviet government has given the world two earth satellites. A sputnik in the air, it seems to be saying, is worth five steel mills on the ground.

But if economic growth in the Soviet Union is slowing down, it is not stopping. And in some fields, such as agriculture, greater government emphasis and increased incentives have already borne significant fruit and may yet result in important further progress. There is always the possibility, too, that Soviet stress on science and technology may bring important new breakthroughs in such economic areas as automation—breakthroughs that could alter our present perspectives.

But if the loudest scoffers at Soviet capabilities were wrong, so too are those today who panic at the "beep-beep" of sputniks in outer space. The Soviet Union has severe problems at home, and Stalin's successors are being forced to pay the bill that Stalin rolled up in his long, relentless driving of the Soviet people. The free world has the resources and the ingenuity to counter the Soviet challenge in any area, if we put our hearts and our minds to the task. But we can no longer afford to dismiss the Soviet challenge. We can never again ignore the fact that if our system fails in any key respect—from space satellites to the maintenance of high employment—there is an able competitor on the scene ready, able, and most willing to take advantage of our errors. END

EDITORS' NOTE: The chart on pages 102–103 is mainly based on data appearing in *Narodnoye Khozyaistvo SSSR* (*The National Economy of the USSR*), the National Industrial Conference Board's *Economic Almanac*, the *Statistical Abstract of the United States*, and Report of the 84th Congress's Joint Committee on Atomic Energy, *Engineering and Scientific Manpower in the United States, Western Europe and Soviet Russia*. (An announcement issued by the Soviet Government as we went to press indicates that 80,000 engineers will be graduated from Soviet institutions this year, instead of 70,000 as shown in the chart.)

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GETTING BETTER SALESMEN

continued from page 44

- Broad, rather than intensive, personal interests
- Acceptability to potential customers in manner and appearance
- Social intelligence and poise in the company of others.

It must, of course, be recognized that there is a very wide range of sales jobs, and no list of qualifications can be rigidly applied to all of them. There is as much danger in hiring an over-qualified as an under-qualified person. For example, the physical demands of the job may range from as few as two to as many as twenty calls a day. The intelligence requirements may range from those of a clerk to those of an engineer. Potential financial motivation can range from $5,000 to more than $25,000 a year. And the human relations skills required may range from the receptionist level to that of a top executive engaged in negotiating the sale of a $20 million business. Within the same company, different product lines and different territories may present a comparably wide range of demands.

Every company needs to define as precisely as possible the qualifications needed for its own sales jobs. This point is well expressed by an executive of Underwood Corporation, W. F. Arnold, who wrote: "We wanted to know specifically: What makes a salesman succeed or fail in Underwood? We wanted an answer in very specific and material terms. We were not satisfied by vague, plausible generalities like 'lack of interest in selling' or 'poor drive.'

"We know that the Underwood salesman is different from salesmen in general, not only by virtue of the nature of our products but also because of the nature and philosophy of our management."

Once the qualifications for the particular job you are trying to fill have been firmly determined, and you know how flexibly or rigidly they ought to be applied, where do you start to improve your selection process? The first step, of course, is to attract more qualified applicants.

There are five major sources of sales applicants: (1) advertisements; (2) employment agencies; (3) schools and colleges; (4) references and contacts; and (5) present employees. In today's labor market a

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company has to use all five methods to get its fair share of the best. And, to be successful, recruiting must be a planned and continuous effort. The right man probably won't be there for the company that doesn't look for him until the need is urgent.

Using Sources Wisely

Each of these recruiting sources must be used intelligently. Advertisements have to be placed in the right newspapers on the right days with the right content. Employment agencies and schools must be screened and properly briefed as to needs. Contacts have to be established systematically and tactfully. Present employees must be informed of sales openings, and those interested should be carefully screened for sales potential.

The results to be obtained from each of these methods vary widely, as do their costs. The cheapest is not always the best, and volume of responses is not a sure guide unless quality is also considered. For example, one study showed that only one out of every 45 applicants obtained through newspaper advertisements is employed, as against one out of every fourteen referred by employment agencies. A company with its own personnel specialists, however, may still find the advertisements cheaper than the employment agency.

Experience in selection suggests that the following clues, based on an applicant's experience and training record, interviews, and reference checks, may be useful in evaluating his background:

1. Is what he expects to get out of the job in line with what the job will probably provide?
2. Will he gain or lose prestige among his family and friends by taking this job?
3. Is he conventional or bizarre in his manner, language, and appearance?
4. Is he hostile toward others?
5. Does he fear failure? Does he have a strong need to be successful in whatever he undertakes?
6. Are his hobbies the kind that involve working alone—such as collecting and handicrafts?
7. Does he belong to too many organizations (or to none)?
8. Is his wife likely to oppose his employment for any reason? Is there

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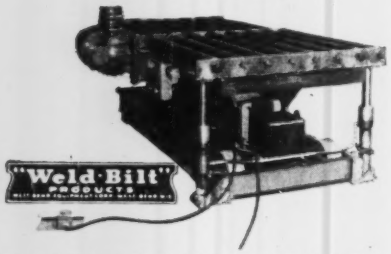

With this new Weld-Bilt Hydraulic Lift Platform, just move the platform to the press, raise or lower it to proper level, secure the cable hook, push a button, and the motor driven winch pulls the die or other heavy unit over the free-running rollers—on or off your press. Built to handle 20,000 lbs. with 48" or 96" platform. Similar Weld-Bilt units can be designed to various sizes and capacities to 50,000 lbs.

You, too, may have a lift-or-move problem in heavy equipment. Weld-Bilt engineers can offer a profitable solution. Write, we'll be glad to supply details.

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MATERIALS HANDLING ENGINEERS
303 WEST WATER STREET • WEST BEND, WIS.

wisdom comes with age

THE OLDER WE GROW, the more we know. This is not only true of people, but of companies, too . . . for a company is only as wise as the knowledge of its combined staff.

FOR 60 YEARS, PANAMA-BEAVER has matured steadily in its program to provide an "easier office-worker life." Since 1896, the company has learned to anticipate the needs of the commercial world before they arose. Among the first to recognize the important role of Vision-Engineered products, PANAMA-BEAVER's research department developed the easy-on-the-eyes Hypoint colored carbon papers plus Lustra Colorful Inked Typewriter Ribbons—especially created to harmonize with all paper stocks and letterheads. Another achievement—the Eyesaver, Parma Pearl and the NEW Ebony Unimasters (for spirit duplicating) with tinted jackets to avoid glare, relax the eyes, relieve harsh contrast and permit faster work.

EXCITING THINGS have already been charted for PANAMA-BEAVER's next 60 years . . . as you will find out when you call your PANAMA-BEAVER man, "always a live wire!"

PANAMA-BEAVER
Ribbons and Carbons
Coast to Coast Distribution

Since 1896—"The LINE that can't be matched."
MANIFOLD SUPPLIES CO.
188 Third Ave., Brooklyn 17, N. Y.

a recent history of divorce or separation?

9. Does the applicant show frequent changes of address and employer—or has he been too long with his last employer?

10. How good are his reasons for leaving previous employers—including his present employer, if any?

11. What is his health and sick leave record?

THE AUTHOR • Milton M. Mandell has been responsible for the preparation, installation, and administration of a variety of testing and selection programs. In a consulting capacity, he has assisted manufacturing companies and utilities in management selection, development, and appraisal, and he is considered a top authority in the field of salesmen selection. Since 1945, he has been chief of the Management Testing Unit, Standards Division, U.S. Civil Service Commission. He is the author of many articles in management and psychological journals, and of the American Management Association's research report *A Company Guide to the Selection of Salesmen.*

12. Do his activities indicate that he is an active, energetic person?

13. Has he been a failure in his own business?

14. Are his debts and other financial needs greater than his probable income could meet? Does he have other sources of income which meet a substantial portion of his needs?

15. Does he have a record of unemployment or much higher earnings?

16. Has he always had to work to meet his needs?

17. Is he a scholar at heart, or are his interests broader and more superficial?

18. Does he have a history of dealing successfully with people? With what kinds of people?

19. Will he antagonize others by always trying to show he is right or better than they?

20. If he has sales experience, how good a salesman was he?

A conscientious effort to get the true answers to these questions, and a thorough analysis of the resulting information, should provide a reasonably sure guide to selection. It is inevitable, considering the complexity of human beings, that not all the answers will be either favorable or unfavorable—and there are no magic formulas for evaluating with abso-

lute certainty a particular pattern of answers. All that can be said with assurance is that the hiring decision will more likely be correct if it is based on a thorough knowledge of the job to be filled and if several persons, rather than one, analyze the facts and make the final decision.

Pinpointing what information is needed does not, of course, tell us how to get it. It is noteworthy in this connection that American industry apparently spends more money on selecting salesmen than on selection for any other job category.

Why Sales Selection Costs More

There are probably three major reasons for this: First, the heavy turnover among salesmen has alarmed sales executives. Second, dependence on outside sources for salesmen means that it is less often possible to use merit ratings, a relatively inexpensive device when jobs are filled by promotion from within. Finally, the costs of poor selection are more obvious in the case of salesmen than in that of almost any other group. At any rate, it is probably all to the good that sales selection is receiving so much attention—but the question remains whether the money is being wisely spent.

In some cases, the answer is plainly "no." There are three main reasons:

1. Expensive information is being obtained, but is misused or ignored in favor of the prejudices of those making the decisions.

2. Expensive information is being obtained, but it is unreliable because those supplying it have not done the necessary preliminary research.

3. Several overlapping methods are being used, resulting in needless duplication of some data and neglect of other essential information.

While there is no magic key to successful sales selection, better selection methods are available to any company that will make the effort to develop and apply them. American psychologists have developed a number of effective tools for the study of job candidates, including observation, checklists, and the critical incidents method. They are skilled in making tentative hypotheses as to the qualifications needed in particular jobs. They are sophisticated in devising criteria by which to appraise the validity of specific selection methods. And they have a wide variety of tests, biographical inventories, and interview methods at their disposal. When management itself is competent, and the recruiting program is effective, a company that has decided it needs expert outside help in the development of selection devices can be reasonably sure of getting advice that will reduce the probability of selection errors and help identify the source of past hiring mistakes.

Currently, the use of tests for salesmen selection seems to be on the increase. In 1954, of 178 companies surveyed by the American Management Association, 95 reported using tests, while a considerably larger proportion of executives recently queried in another survey gave a positive answer. Half of these executives use a standard battery of tests; the others use tests specially assembled to meet their companies' needs. Perhaps the reasons for this increase are reflected in these comments by White Sewing Machine Corporation:

"Tests help eliminate applicants whose self-salesmanship is well developed, or who know all the answers about ability on the job, or who are friends or relatives being pressured into a job regardless of fitness or training. . . . When tests become a regular part of the employment procedure, they tend to keep away the floaters, the irresponsible, and the professional job hunters."

Which Tests Are Best?

Among the various types of tests, research studies tend to indicate that those measuring interests are most effective. When tests are prepared specially for a particular company, a weighted application blank (on which each significant item has been assigned a numerical value) will prove highly useful. Intelligence tests are always desirable, too, in order to keep out those who are intellectually over- or under-qualified for the job. Personality tests are also of value in the hands of competent psychologists, or when the scoring keys and norms are based on research results.

Among the interest inventories, the Kuder *Preference Record* seems to be the most practical test, while the Strong *Vocational Interest Blank* is highly useful for extensive testing programs. The intelligence tests published by the Psychological Corpora-

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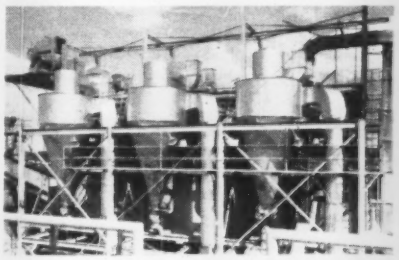

Imagine, all of this pleasure in a fast growing distribution and industrial area—home of the new multi-million dollar Martin plant. Orange County is truly a quality market where folks dress better, eat better and spend more money in retail stores than their average U. S. neighbors.

For new "Facts about Orange County" booklet and FREE boating and fishing atlas of this area write:

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Chamber of Commerce

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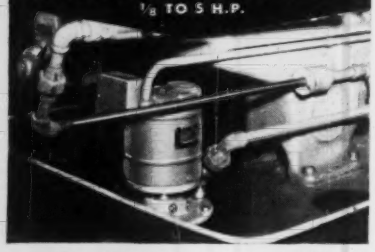

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tion and Science Research Associates, among others, furnish information on the level of learning ability of the applicant. But it should be emphasized that these tests, like personality inventories, need extremely careful validation for useful results. The concrete test score can be dangerously deceptive—it looks definite and ready for interpretation, yet alone it can easily be almost meaningless.

Reference Checks Pay Off

Possibly the most encouraging trend among companies pioneering in salesmen selection is the increasingly careful checking of references by telephone or personal visits. It is now recognized that an interview involves a good deal of guesswork on the basis of limited data obtained in an artificial situation, while an effective reference check, despite its limitations, can produce extensive information based on actual behavior in a natural situation, and requires fewer inferences. Very few companies are now content with letters or special forms as a means of obtaining this potentially highly valid information. It is too easy for the former employer to fill them out in a perfunctory way.

Interviews, of course, will never be entirely superseded as a selection device, but they are not always used to best advantage. When carefully conducted, the interview functions as a self-selection device by giving the applicant a full picture of job duties and demands. This gives him the opportunity to eliminate himself as a candidate if his application has been based on an unrealistic understanding of the job.

Several interviewers are a great deal better than one. By the same token, interviews are most effective if they are long, intensive, and extensive, including a review of the applicant's family situation, his hobbies and recreational activities, and his activities during college or high school years.

Interviewers should be carefully selected and trained. In inept hands, excellent selection methods will no more produce accurate results than will a micrometer in the hands of a three-year-old.

In addition to the topics suggested above, the interview should also be used to get information on the following subjects:

1. Why is the applicant interested in sales work?
2. Which types of sales work does he prefer?
3. What does he do when he has to deal with an uncooperative person?
4. What sort of territory would he prefer?
5. What kind of supervision does he prefer?
6. What has he liked about the jobs he's had? What has he disliked?
7. Why is he applying to this company?
8. What kind of work would he like his sons to do?
9. Does he have strong biases against any particular groups with whom he may have to deal?

Key Man: The Interviewer

The interviewer should make certain that he gets full information on all the questions he asks. Too often interviewers assume that they know what the applicant means, when additional questioning would have shown that the first answer was only a partial one. Whenever possible, the interviewer should have the information obtained by the reference check at hand, both to suggest lines of questioning and to enable the interviewer to round out incomplete data. Obviously, to meet the objectives outlined here even the most skilled interviewer will need a considerable length of time to get the information he needs. Forty-five minutes is probably the minimum.

The labor market outlook suggests that prospects for attracting many more good applicants during the next few years are not bright. But continuing progress in selection methods, and the fact that more and more companies are recognizing the need for improved sales management, are favorable indicators. Companies are far past the day when feeling the bumps on a man's head, appraising his handwriting, and seeing how he responded when you looked him square in the eye was considered the way to select people. Selection methods today may not be infallible, but they are sounder than ever before. The right combination of up-to-date techniques and old-fashioned managerial judgment will go a surprisingly long way towards getting your company the better salesmen it's going to need in the tough, competitive days ahead. END

PREPARING FOR THE HARD SELL

ALSO: *A new look at vending; identifying trademarks*

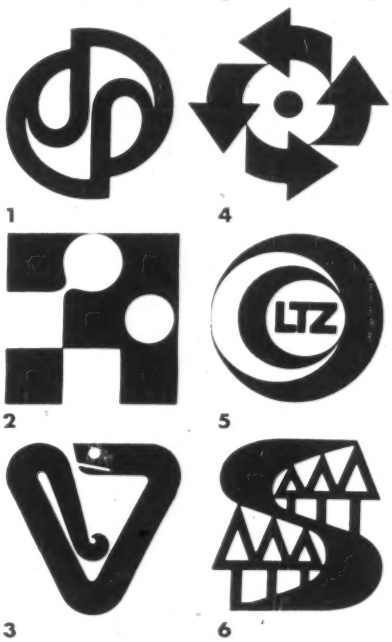
MANUFACTURERS have long lamented that the weak link in the distribution chain is the retail store clerk. In the past few years, many companies have made new efforts to strengthen this link—by producing sales training materials, point-of-purchase aids, films on selling, and similar devices.

The Wooster Rubber Company, of Wooster, Ohio, ($20 million sales) has hit upon a scheme which is apparently paying off in increased sales in a tight market. At a cost of $10,000 the company recently brought to Wooster 68 department-store demonstrators from all over the nation.

During two days of meetings, company executives introduced a new line of Rubbermaid housewares products, demonstrated to the demonstrators ways to boost volume by tie-in selling and other means, and generally created rapport with people who move the merchandise. Out of a brainstorm session came specific

Can You Pick the Best Trademarks?

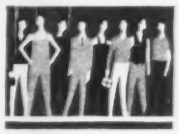
As we move deeper into the visual age of selling, which is marked by the spreading of self-service and greater emphasis on advertising to presell the consumer, trademarks are taking on added importance. Companies are revising about 21,000 symbolic trademarks each year in order to strengthen and improve the image they present to the public and to tie together their marketing efforts. Increasingly, management is favoring abstract, symbolic trademarks over the literal representations of the product common in earlier decades. But it's vital that the symbol should point clearly to the activity in which the company is engaged.



On the left are six abstract marks which are used by Swiss companies. The industrial design firm of Lippincott and Margulies, New York, showed them to scores of people in the United States to determine whether the abstractions successfully identified the kind of company each represents. It was found that two of the symbols were matched correctly almost every time. Two others were matched correctly by about half the people tested, and the remaining two were almost never matched. See if you can pick out the effective symbolic trademarks by matching each with the kind of company that it is intended to represent (*answers on page 116*):

____Drugs
____Road building
____Machine tools
____Lighting equipment
____Engraving
____Drills

PLENTY OF
Skilled Labor
in industrial
LONG BEACH,
Southern California



The greater Long Beach labor pool grows by 7,500 a month. This in-migration brings engineers, machinists, and men and women of other factory skills here by the thousands. They supplement the large reservoir of skilled and technical workers already here — living in their own homes. Wage rates are moderate — stoppages few — turnover light. The area worker is alert and healthy, kept so by a habit of outdoor recreation the year 'round.

Labor-Saving Facilities
Speed Shipping at

America's
Most
Modern
Port

Modern installations at the Port of Long Beach speed cargo movement. Typical of the many fine facilities is the bulk loading conveyor which will load and trim bulk cargoes at a rate of better than 500 tons per hour. Used in conjunction with an electric vibrator car shake-out, the loader makes quick work of cargoes such as iron ore, coke, coal, potash, sulphur, salt, gravel and cement.

The Port of Long Beach and the large labor pool are only two of the 12 outstanding advantages Long Beach offers to industry.

Send for these!

Long Beach Chamber of Commerce
121-D Linden Avenue
Long Beach 2, California

☐ Please send literature on industrial Long Beach
☐ Send your Port magazine, "Harbor Highlights"

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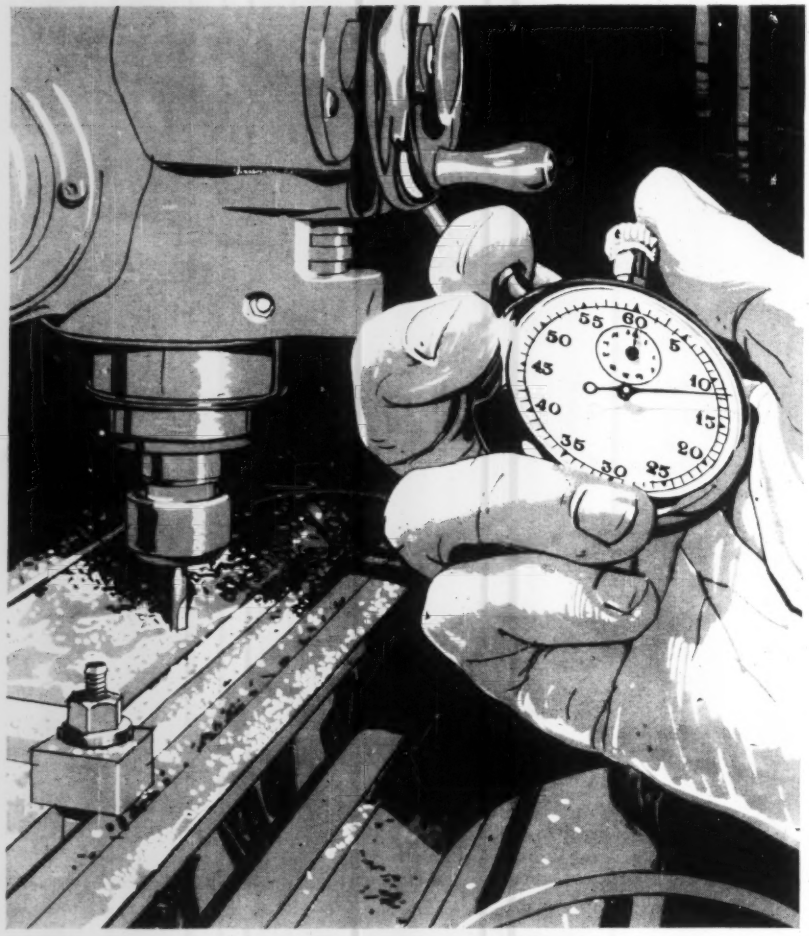
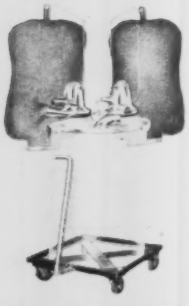


the HIDDEN COST that time study missed

It wasn't the drilling, the milling or the turning operation that was keeping costs up in Company X, it was the HIDDEN COSTS of metal chips. Slow, obsolete methods of brushing, dangerous blowing with compressed air . . . just couldn't do the job.

That's where Tornado Industrial Vacuum cleaning takes over. 300 M.P.M. suction literally swoops every minute metal particle away from both part and machine. NO chips on the floor, or in a workman's eye . . . they're all in the big 55 gallon drum ready to bring a higher salvage price. Let Tornado cut your hidden costs—*write for Bulletin 660.*



BREUER ELECTRIC MFG. COMPANY
5106 N. RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

See us at the Plant Maintenance Show, Jan. 27–30, Booth 440

SALES STORY FOR STORE SELLERS

suggestions for new products which consumers have been seeking. And already the company has its development people at work on three new products suggested by the demonstrators.

Selling automatically

Companies are on the lookout for unusual methods of distribution to move the mountains of goods turned out by more productive plants. And many are taking a long look at vending, which is growing faster than distribution in general (see DR&MI, February 1957, page 54). Developments in this field recently have drawn increased attention from marketing people, particularly those concerned with packaging and food products.

For instance, a basic change in packaging and product preparation for the vending market is underway. Until now, vending machines have been designed to handle existing products in conventional packages. Hot soups have been sold through vending only because the industry designed a machine to dispense the conventional tin soup cans. This is certainly not the most appetizing way to serve soup—so the machine manufacturers are now working on a new concept in vending. Product, package, and machine are being designed together as an integrated unit.

One of the first such machines—a bona fide coffee-brewer—was recently shown off by the Vendo Company

Identifying Trademarks *(see page 115)*

Symbol	Company Product	Frequency of Identification
1	Drills	Low
2	Engraving	Medium
3	Drugs	Low
4	Machine tools	Medium
5	Lighting equipment	High
6	Road building	High

of Kansas City, Mo. Unlike standard machines, which dispense coffee made from powdered or liquid concentrates, this machine actually brews coffee from quarter-pound tins of coffee designed especially for the purpose.

In addition to special packages for vending machines, companies are also developing special products. For instance, fresh apple juice was marketed nationally for the first time this Fall, and the method of distribution chosen was vending. Fruit Industries Inc., of Bradenton, Fla., bought up half the surplus apple crop in the nation, squeezed the apples into juice, quick-froze it into ice-cubes, and put 1,500 Vendo machines to work to sell it.

A Quink advertising sign, printed in Spanish, read: "Parker Quink Protege Su Pluma y Evita Embarazos." In English it meant "Parker Quink protects your pen and prevents clogging." It meant the same thing to a great many people who speak Spanish, but in Mexico the word *embarazos* has a more common meaning: "pregnancies."—From *The Shoptalker*, Parker Pen Company house organ.
—T.K.

Back to nature

This plastic (polyethylene) imitation of a lemon is in many ways one of the closest approximations yet developed to the perfect package. In texture and color it is almost as appealing as the natural fruit, and it has high convenience value—a slight squeeze produces a jet of juice. Its flat base enables the "fruit" to be displayed on supermarket shelves, where it has proved to be a compelling impulse item. A companion product—in green, of course—dispenses lime juice. Since its introduction in retail stores a few months ago, the new package (previously only bottles were used) has been very helpful in boosting the sales of the company's juices. Developed by RealLemon-Puritan Co., of Chicago, the container is produced by Plasticite Corp., New York.

ice-foe

Special ice-melting compound melts hazardous ice and snow quickly, easily . . . no messy rings or residue! Available at leading sanitary supply distributors or write to Walton-March, Dept. DR, 1935 Sheridan Rd., Highland Park, Ill.

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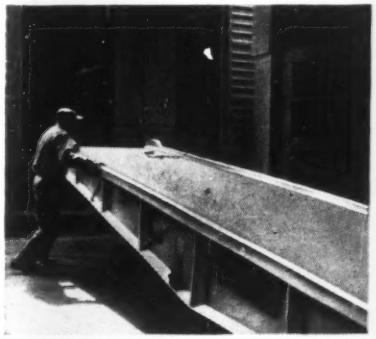
Magliner Magnesium Loading Ramp does important job for Vibradamp Corp—speeds flow of raw materials and finished products in and out of company's Jackson, Michigan plant.

Shipping and receiving operations for the company's asphaltic and resinous products are located in a ground-level warehouse—without dock facilities. Handling the heavy metal drums of bulk materials that moved between warehouse and carrier required the full time services of two three-man teams and two power trucks. Each team worked on separate carriers. Two men would remain on a carrier and manually handle 500 and 850-lb. drums, positioning them to the barrel fork-clamps of a power truck, which the third man shuttled between carrier and warehouse. Loading a 32,000-lb. truck cargo took each team 25 minutes; an 80,000-lb. rail car shipment, 60 minutes. Result: high loading costs, lagging freight movement



ONE MAN MOVES IT! Made of magnesium for easy one-man handling. Bridge design all-welded construction for rugged, dependable service. Available in a wide range of standard sizes. Load capacities to 16,000 lbs.

and hazardous working conditions for the men. Now, with a Magliner Loading Ramp on the job, the three-man teams are no longer required! Rail car and truck loading both are easily handled by one man and a power truck . . . *in less than half the time formerly required!* And the Magliner Loading Ramp *paid for itself in only six weeks!* Four men have been released to other departments . . . handling costs have been reduced *without large capital expenditure.*

Do you have an older building or ground level plant . . . need extra or movable dock facilities? A Magliner Mobile Loading Ramp is the practical money-saving solution. A loading dock on wheels, where you need it . . . when you need it!

MAGLINE INC.
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GET THE FACTS—Please send job report, LR-382—a complete field report covering the practical economies of Magliner Mobile Loading Ramps.

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authority

Traits of careful thought and thorough fact-gathering show through in a magazine whose purpose is to help executives manage their businesses better. When a business magazine's articles and features are truly informative and beneficial it wins high-level attention and trust.

Top management men want the ring of authority in what they read.

As for advertisers, they know the advantages to their products or services when their sales story is being presented in a magazine key executives will read. And rely on. And retain for reference.

Just how important to sales is business magazine advertising?

Recent independent surveys* conducted in city after city across the land show that an overwhelming majority of company presidents actively influence major company purchases. *Yet* . . . in many instances the salesman can't get through to these presidents.

In Cleveland, 8 out of 10 presidents had influenced a major company purchase during the month preceding the survey. In Milwaukee, it was 8 out of 10 again . . . and in San Francisco, and in Cincinnati. In Dallas, 9 out of 10 presidents had had this active influence on buying.

However, in each of these cities, a salesman representing the product or service bought had seen the president only in about half (or less than half) the cases.

These figures point up a troublesome marketing problem. But business magazines point up the one sound answer.

Presidents are serious readers of business magazines. What better way to reach them than through the advertising pages of an authoritative magazine of business. What better place for your advertising than

DUN'S REVIEW and MODERN INDUSTRY

The magazine of Presidents .. **and men who are going to be!**

*Research carried out by Fact Finders Associates, Inc., New York

"WATER, WATER—ANYWHERE!" That's the industrial twist to the famous line of the Ancient Mariner. Water becomes increasingly important as technology advances, and its abundance in a community is a distinct asset. The utilitarian water rights are just as valuable, if not as well defined, as riparian rights.

Twenty years ago an industry moved into a community in the Appalachian foothills, sank a deep well, and within a year 200 rural residents were without water. That seldom happens today, because no sensible management would move into an area unless it knew the water table and rainfall record of the area. Neither would a sensible community invite such a disaster for the sake of the immediate benefits of employment and civic development. Long-term industry planning must consider its stake in natural resources, and the means of protection, salvage, and replacement wherever possible. And water supply is a primary resource to be conserved.

The lesson of waste, abuse, and lack of vision is all around us: polluted creeks, silted rivers, eroded and barren hills, dust bowls, ghost towns—all products of the opportunism of the late 19th and early 20th centuries. We know that the fast dollar of the predator represents a long-term net loss to the national economy. Nature has a way of punishing her tormentors unto the fourth and fifth generations, and many leaders of industry in our day make no defense of the ruthless, competitive swashbucklers who dissipated our natural resources.

Whether under the whip of conscience or the threat of the law, conservation has made tremendous strides among the industries which rely on raw materials out of mines, forests, and waterways—yes, and on the cubic miles of air. Progress is being made among industries that have a long-term stake in every step of conservation. Smoke, once recognized as the dark flag of an industrial kingdom, is now evidence of an inefficient operation. The bilge of industry was once considered the necessary purge of a chemical world. It contaminated many rivers—the Merrimac, the Passaic, the Schuylkill, and the Potomac, to mention a few—and turned them into flowing cesspools. Today, the waste of the mills can be cleaned of sludge and acids, and sent harmless back to the rivers. It costs money, of course, but is the prevention of pollution an expense or an investment?

Cleaning up a stream, reforesting a denuded slope, smoke abatement, proper shoring of mine shafts—these are not sentimental concessions to the sportsman, the do-gooder, or the dedicated naturalist. They are recognition of the cycles of nature that create wealth. Properly planned and protected, the water-shed offers many long term benefits to industry in recreated assets.

If the ghettos surrounding old factory neighborhoods are monuments of blame and shame to wasteful use of human energies and talents by generations past, so are the blemishes of the barrens and the scars of erosion the stigma of bad faith with the future. Modern agriculture and industry have a joint interest in the restoration of the soil to its original fertility.

Alert management in this era has shown evidence of a desire to support the ideals of practical conservation policies as good business judgment. Modern industrial research in its product development often bumps elbows with the conservationist in areas of mutual interest, and they find good reason for cooperative effort. Where companies, or industries as a group, drag their feet in accepting conservation as necessary and desirable, they are only inviting legislative action as well as public reproach.

The need is urban as well as suburban and rural. The city of Pittsburgh made a determined and successful effort to rinse the air of smog and cleanse the smudge from its face, and the cost is being offset by the increased real estate values. The reclamation was a social as well as a financial triumph for leaders with vision and determination.

Naturally, all conservation programs cannot effect remedies as swiftly as the public or the specialist may hope. But where the desire to restore natural resources is sincere, there is sure to be progress.

The Editors

Recruiting Telephone Ideas for the Future

What will the telephone of the future be like? Key members of CPPD discuss some possible models. Will they work? Are they marketable? Will they stand up?

Bell System's new Customer Products Planning Division has the fascinating job of generating, screening and testing new ideas for ever-better telephone equipment and service.

Here in this quiet room is shaped an important part of the future of the telephone.

For here are gathered together from many sources the hundreds of new engineering and styling ideas . . . even the "screwball notions" . . . from which the telephone of tomorrow will be developed.

Which are good? Which are bad? It is the responsibility of the Customer Products Planning Division to find out. And to select for development and production those items that people really want.

No idea seems too farfetched for careful consideration by this hard-headed but hopeful group.

They go on the premise that even a poor idea may spark a good one, and that you never know how good an idea is until you try it.

So, when an idea looks promising, working models are developed and designed by the Bell Telephone Laboratories, built by Western Electric Company, and tried out in homes or offices. Thus no bets are missed, and no costly mistakes are made.

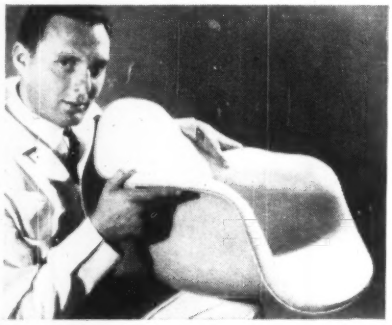
This is just one reason for the success of Bell System's continuing program of research for ever-better telephone service.

Working together to bring people together

Bell Telephone System

IDEAS for profits from Monsanto's "House of the Future"

Cushioned seating molded in one operation



This revolutionary chair-to-be features ¾" vinyl-foam pad contoured and sealed to plastic shell in same operation that forms shell itself.

Photo courtesy of General American Transportation Company (molder) and Bolta Products Division of The General Tire & Rubber Company (foam maker).

FOR "CUSHIONING" MASS—foam-on-shell can give the deep-dimension look.

FOR THE LIGHT, LEAN LOOK—foam-clad seat, arms and back can be assembled quickly on supporting frame.

FOR LARGE, SWEEPING DESIGNS—foam-clad shells can simplify handling in all phases of production.

Now seating units can be produced—seat structure and cushion—in a single molding. The supporting shell is strong, lightweight reinforced plastic. The cushioning is vinyl foam, shaped and laminated to the shell during the actual molding operation.

Streamlined production? Yes, indeed. Mold, trim, cover, add legs . . . that's it!

Merchandisable? Extremely so, particularly if offered with a choice of "snap on" covers for seasonal change.

Contact your nearest custom molder of reinforced plastics today. He will welcome the opportunity to explore with you the exciting possibilities of this new furniture production technique.

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